

HAKKO 472D

DESOLDERING TOOL

472-01 IRON TYPE

472-02 GUN TYPE

Desoldering Tool

Instruction Manual

Thank you for purchasing the Hakko 472D desoldering tool with digital temperature display.

Please read this manual before operating the Hakko 472D. Keep this manual readily accessible for reference.



CAUTION

Before Plugging In!

REMOVE the pump securing screw (M4 × 25, red) from the bottom of the 472D station before using it. Leaving the screw in place will cause serious problems. Be sure to **SAVE THIS SCREW!**

REPLACE the pump securing screw (M4 × 25, red) into the bottom of the 472D station before transporting it. Leaving the screw out will cause serious problems.

TABLE OF CONTENTS

| | |
|--|----|
| PACKING LIST/SPECIFICATIONS | 1 |
| WARNINGS, CAUTIONS, NOTES AND EXAMPLES | 3 |
| PART NAMES | 4 |
| OPERATION | 5 |
| PARAMETER SETTING | 11 |
| MAINTENANCE | 12 |
| ERROR MESSAGES | 19 |
| BEFORE SERVICING | 19 |
| TROUBLESHOOTING GUIDE | 20 |
| REPLACEMENT/OPTIONAL PARTS | 22 |
| PARTS LIST (IRON FOR HAKKO 807) | 23 |
| PARTS LIST (GUN FOR HAKKO 817) | 24 |
| PARTS LIST (STATION) | 25 |
| WIRING DIAGRAM | 27 |

PACKING LIST

Please check to make sure that all items listed below are included in the Hakko 472D package.

472D-01 and 472D-02

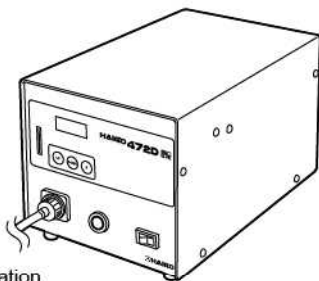
| | | | |
|--|---|--|---|
| Station | 1 | Cleaning pin for heating element | 1 |
| Spring filter | 3 | Instruction manual | 1 |
| Ceramic paper filter (S) | 2 | Control card | 1 |
| Ceramic paper filter (L) | 4 | Card chain | 1 |
| Cleaning pin for $\phi 1.0$ mm (0.04 in.) nozzle | 1 | | |

472D-01

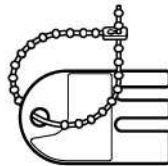
| | |
|--|---|
| Desoldering iron (Hakko 807) | 1 |
| Filter pipe with filter holder, spring filter & ceramic paper filter (L) | 1 |
| Iron holder for Hakko 807 | 1 |

472D-02

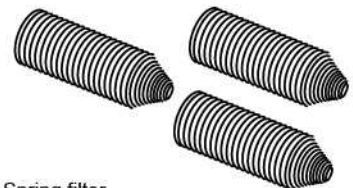
| | |
|---|---|
| Desoldering gun (Hakko 817) | 1 |
| Filter pipe with front holder, spring filter & ceramic paper filter (L) | 1 |
| Iron holder for Hakko 817 | 1 |



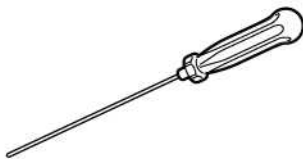
Station



Control card/Card chain



Spring filter



Cleaning pin for heating element



Cleaning pin for $\phi 1.0$ mm (0.04 in.) nozzle

Ceramic paper filter (S)



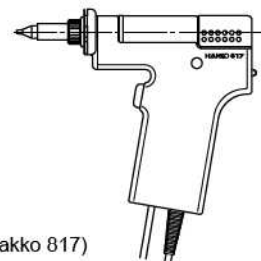
Ceramic paper filter (L)

For pen type



Desoldering iron (Hakko 807)

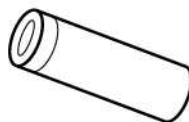
For gun type



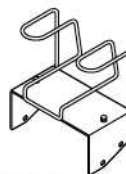
Desoldering gun (Hakko 817)



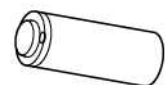
Iron holder



Filter pipe



Iron holder



Filter pipe

SPECIFICATIONS

| | |
|--|--|
| Station | Hakko 472D |
| Power consumption | 120V AC, 110W |
| Vacuum pressure | 80 KPa (600 mmHg) (24 in.Hg) |
| Suction flow | 15 liters/min |
| Nozzle to ground potential | Under 2 m V |
| Nozzle to ground resistance | Under 2 Ω |
| Outer dimensions (l \times w \times h) | 263 \times 160 \times 148 mm (10.4 \times 6.3 \times 5.8 in.) |
| Weight (w/o cord) | 4.6 kg (10.14 lb.) |


| | |
|-------------------------|---------------------------|
| Desoldering iron | Hakko 807 |
| Power consumption | 24V AC, 60W |
| Temperature range | 350 - 450°C (662 - 842°F) |
| Standard nozzle | A1003 (1.0 mm/0.04 in.) |
| Total length (w/o cord) | 205 mm (8.07 in.) |
| Weight (w/o cord) | Approx. 160 g (0.35 lb.) |


| | |
|---|--|
| Desoldering iron | Hakko 817 |
| Power consumption | 24 VAC, 60 W |
| Temperature range | 350 - 450°C (662 - 842°F) |
| Standard nozzle | A1003 (1.0 mm /0.04 in.) |
| Outer dimensions (W \times H) (w/o cord) | 135 \times 145 mm (5.31 \times 5.71 in.) |
| Weight (w/o cord) | Approx. 180 g. (0.39 lb.) |

*Specifications and design subject to change without notice.

WARNINGS, CAUTIONS, NOTES AND EXAMPLES

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

 **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.

NOTE: A NOTE indicates a procedure or point that is important to the process being described.

EXAMPLE: An EXAMPLE is given to demonstrate a particular procedure, point or process.

CAUTION

**Remove the pump securing screws (M4×25, marked red) from the bottom of the station. Failure to do so may result in serious problems.
Be sure to save this screw.**

When the power is on, the nozzle temperature will be between 350°C/662°F and 450°C/842°F.

Mishandling may lead to burns or fire. Be sure to comply with the following precautions.

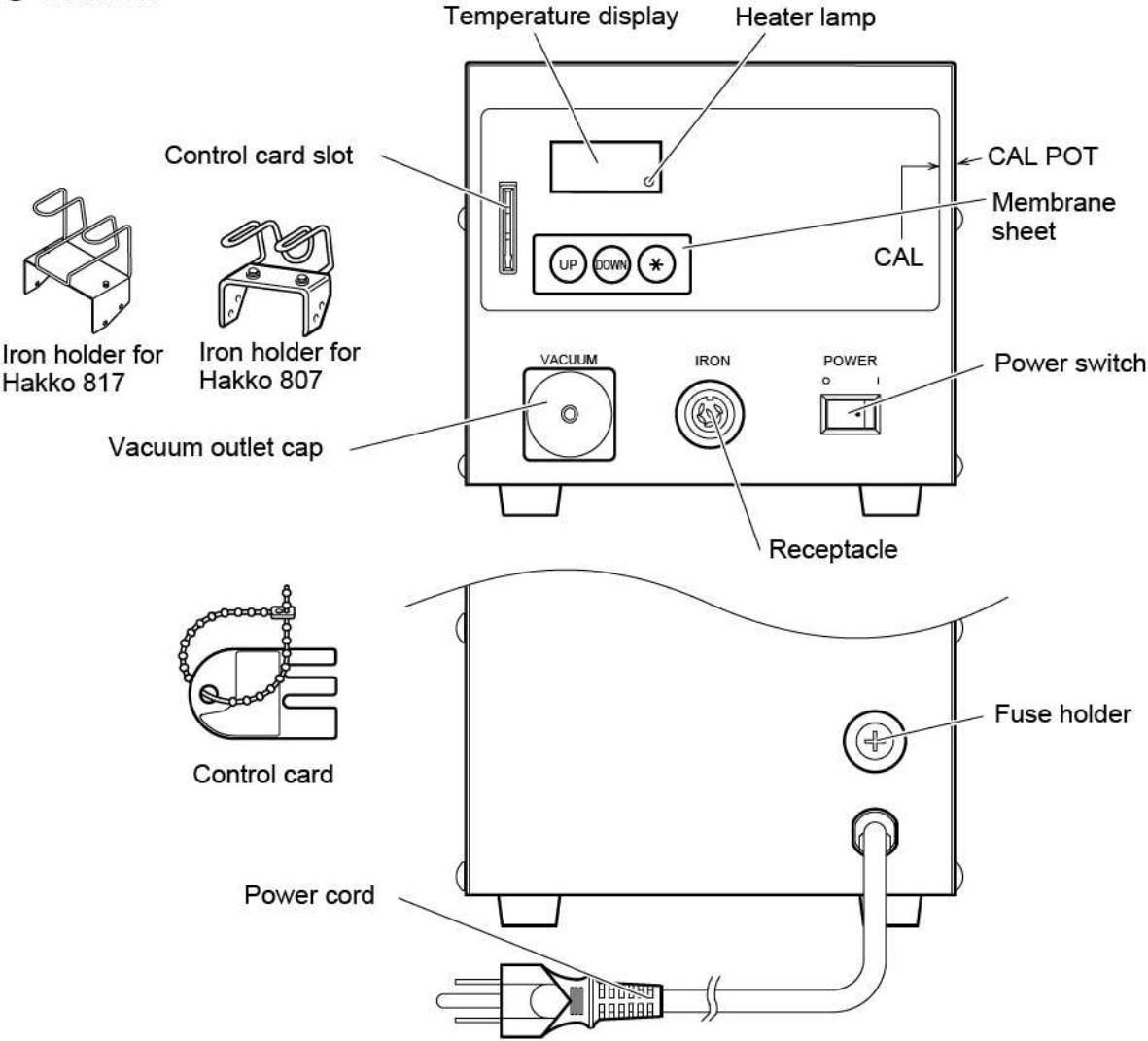
- Do not touch the metallic parts near the nozzle, nearby plastic parts and the iron holder.
- Do not use the product near flammable items.
- Advise other people in the work area that the unit can reach a very high temperature and should be considered potentially dangerous.
- Turn the power off when no longer using the Hakko 472D or leaving it unattended.
- Before replacing parts or storing the unit, turn the power off and allow the unit to cool to room temperature.

To prevent accidents and failures, be sure to take the following precautions:

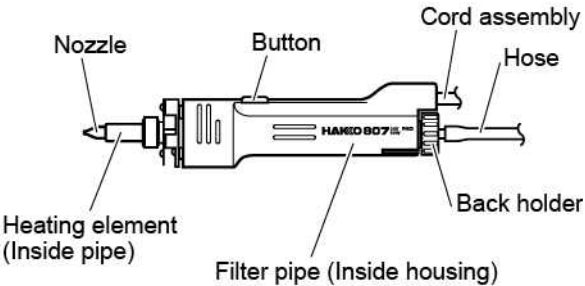
- Do not use the unit for applications other than desoldering.
- Do not rap the desoldering iron against the workbench to shake off residual solder, or otherwise subject the iron to severe shocks.
- Do not modify the unit.
- Use only genuine Hakko replacement parts.
- Do not wet the unit or use the unit with wet hands.
- Use the ceramic paper filter (S) for the filter retainer (station), and the ceramic paper filter (L) for the filter pipe (iron/gun).
- Maintain the desoldering gun and the station.
- While using the unit, don't do anything that could cause bodily harm or physical damage.

PART NAMES

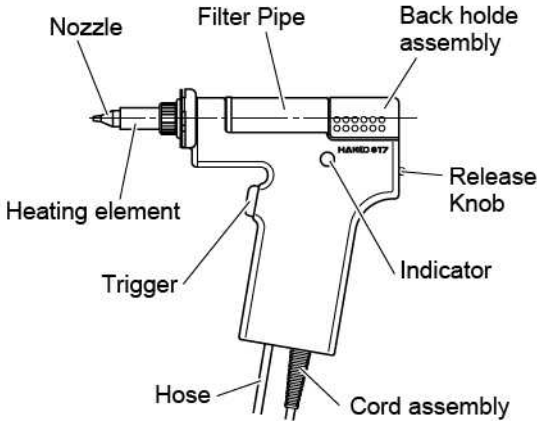
● Station



● Desoldering iron (for Hakko 807)



● Desoldering gun (for Hakko 817)



OPERATION

Heated solder and flux can cause oxides to form and adhere to the nozzle and the inside of the heating element. These oxides not only lower the heat conductivity, but can also clog the nozzle and heating element, resulting in a drop in suction efficiency. Should there be a noticeable drop in suction efficiency during operation, replace the filter and clean the nozzle and heating element with the provided cleaning pin.

● PREPARATION FOR USE.

1. Attach the iron holder.

Remove the iron holder mounting screws from the side of the station.

Attach the iron holder to the station.

(Figure 1 shows Hakko 807; figure 2 shows Hakko 817.)

(The iron holder can be installed on the either the left or right side.)

2. Attach the desoldering tool Hakko 807 desoldering iron:

Insert the filter pipe (with a filter holder, spring filter and ceramic paper filter (L)) into the housing.

Push and turn the back holder clockwise. (Figure 3)

Hakko 817 desoldering gun.

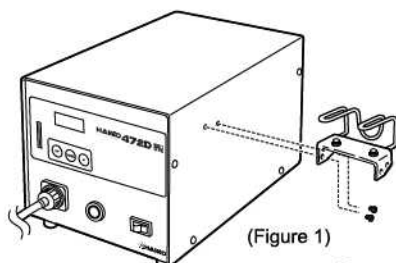
The desoldering gun for Hakko 817 comes with the filter pipe installed. This filter pipe includes the spring filter and ceramic paper filter. No assembly is required.

3. Connect the desoldering tool to the station.

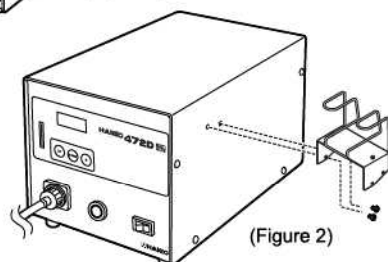
⚠ CAUTION:

Be sure the power switch is OFF (O) before connecting the desoldering iron cord. Failure to do so may result in damage to circuit board.

- Connect the cord assembly of the desoldering tool (Hakko 807 or 817) to the receptacle on the station (see Figure 4).
- Connect the hose to the vacuum outlet cap. (Figure 5)
- Set the tool in the iron holder. (Figure 6 and 7)



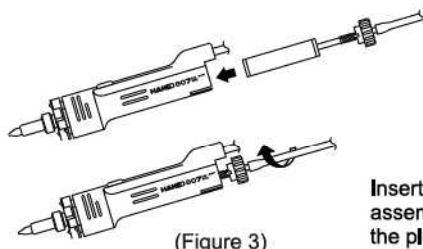
(Figure 1)



(Figure 2)

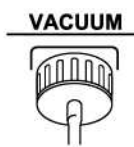
⚠ CAUTION:

Be sure to use appropriate iron holder for 807 or 817. Misuse may damage the desoldering iron/gun.



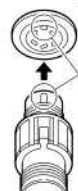
(Figure 3)

Insert the cord assembly by keying the plug to the key on the receptacle.



Attach the hose securely over the vacuum outlet cap.

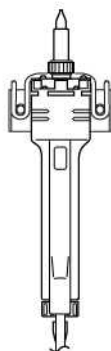
(Figure 5)



Secure the plug by turning it clockwise.



(Figure 4)



(Figure 6) Top view



(Figure 7) Side view

⚠ CAUTION

ALWAYS place the tool in the holder when not in use.

OPERATION

● Setting up the station.

Factory settings: The Hakko 472D is shipped with the following preset values:

| | |
|-------------------------------|-----|
| Temperature scale | °F |
| Low temperature alarm setting | 120 |
| Set temperature | 750 |

● Control card



Each Hakko 472D comes with a small card, which inserts in the control slot in the front of the unit. This card is used when entering data for the process control functions. Any Hakko 472D card can be used with any Hakko 472D soldering station.

This card is used when a value is to be changed or data are to be entered. The Hakko 472D will operate normally with the card inserted. Remove the control card to lock the data.

Plug the power cord into the power supply and turn the power switch to ON (I).

● Setting/changing the temperature.

1. Insert the card into the card slot in the front panel of the station.

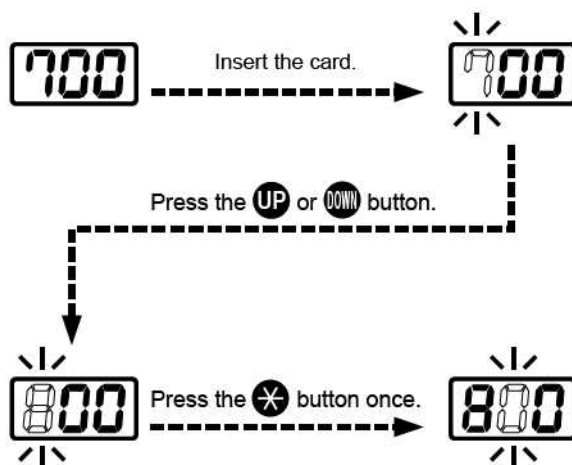
- The HUNDREDS digit in the display begins to flash, indicating that the station is in the temperature setting mode and data can be entered.

2. Enter the HUNDREDS digit.

- Use the **UP** or **DOWN** button to select the desired value for the HUNDREDS digit. For setting in degrees Celsius, either 3 or 4 can be selected. For settings in degrees Fahrenheit, values between 6 and 8 can be selected. When the desired value is displayed, press the **✱** button.

Example :

Change the temperature from 700°F to 840°F



OPERATION

3. Enter the TENS digit.

- Press the **UP** or **DOWN** button to select the desired value for the TENS digit. Any value from 0 to 9 can be selected. When the desired value is displayed, press the **✱** button. The UNITS digit begins to flash.

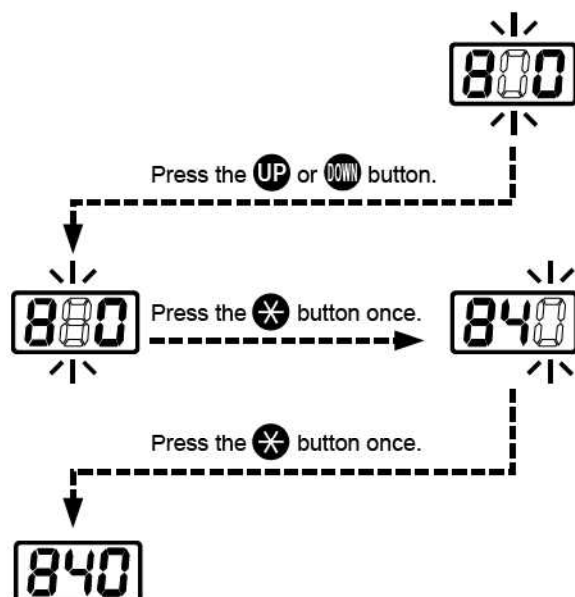
4. Enter the UNITS digit.

- Use the **UP** or **DOWN** button to select the desired value for the UNITS digit. Any value from 0 to 9 can be selected. When the desired value is displayed, press the **✱** button. This will store the temperature setting in memory and display the temperature setting. Heater control begins. Remove the card to lock the data. The temperature setting may not exceed 450°C (842°F). If a temperature above this limit is entered, the HUNDREDS digit begins to flash again after entering the last digit. Follow step 2 - 4 again with a temperature setting below 842°F (450°C).

NOTE:

If the power switch is turned off, or power is lost during the execution of this procedure, no data will be entered. The entire procedure must be repeated from the beginning.

When the station is ON (I) and the card is in the station, the data entry procedure follows:



- Hold the **✱** button down for at least one second.
- The current temperature setting will be displayed, then the HUNDREDS digit will begin to flash. This indicates that the station has entered the temperature setting mode.
- Continue with the procedure of 2-4 above.

OPERATION

● Desoldering

1. Set the temperature. See preceding section.

NOTE:

Always set the temperature as low as possible for the work being done.
The temperature can be adjusted between 350 - 450°C (662 - 842°F).

2. Clean the tip of the nozzle.

Keep the tinned section of the nozzle clean and shiny by coating it with a small amount of solder.

If the tip of the nozzle is coated with oxide, the nozzle's heat conductivity will be lowered. Coating the tip with a small amount of fresh solder ensures maximum heat conductivity.

NOTE:

Holder and sponge are not included with the Hakko 472D.

3. Melt the solder.

- Apply the nozzle to the soldered part and melt the solder.

NOTE:

Never allow the nozzle to touch the board itself.

- Confirm that the solder is melted.

NOTE:

- To confirm that all the solder is melted, observe the inside of the hole and the backside of the P.W.B. If this is difficult to do, try slowly moving the lead with the nozzle. If the lead moves, the solder is melted.
- Never move the lead by force. If the lead does not move easily, the solder has not fully melted.

4. Extract the solder.

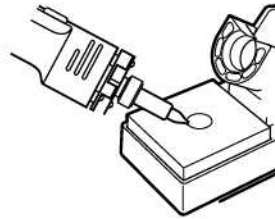
After confirming that the solder is completely melted, extract the solder by pushing the button on top of the 807 desoldering iron, or pressing the trigger switch on the 817 desoldering gun.

NOTE:

Never leave any solder remaining inside the hole in the P.W.B.

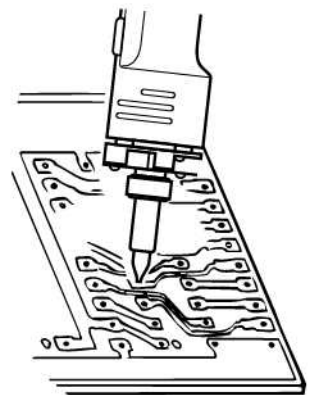
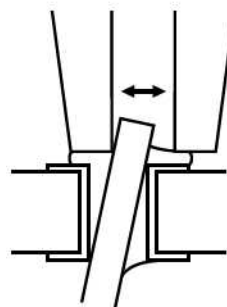
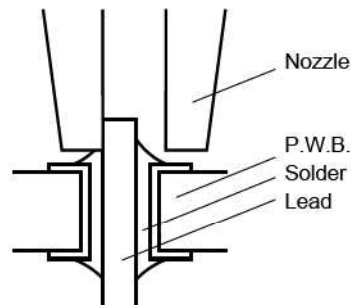
5. Problems during desoldering.

If solder remains, resolder the component and repeat the desoldering process.

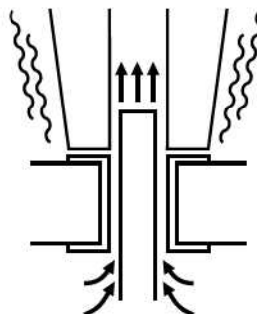


Sponge (Optional parts)

Wipe away any oxide or old solder from the nozzle using the hole in the center of the sponge.



Slowly move the lead with the nozzle.



Extract the solder by slowly moving the lead back and forth with the tip of the nozzle whilst holding the button or trigger.

Filter indicator (Hakko 817 only - the Hakko 807 does not have such an indicator)



With the nozzle hole clear, pull the trigger and look at the indicator. If it is red, clean the nozzle and heating element, empty the filter pipe, and/or replace the filters. If the indicator is blue, cleaning is not necessary and operations can be resumed.

NOTE

The indicator will not operate properly if the hole of the nozzle is plugged, or if the solder in the hole of the board being worked has not melted.

Replacing the filter.

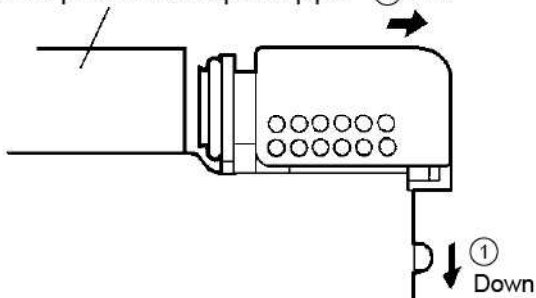
Replace the filter as shown ① - ③. During operation, the filter pipe is very hot. Wait until the filter pipe is cool before replacing the filter. We recommend keeping a second filter pipe containing new filters handy, and replacing the installed filter pipe with this backup filter pipe.

| Not required | Required | Solution |
|---|---|--|
|  |  | If the indicator is more than half red, replace the filter and clean the nozzle and the inside of the heating element. (refer to p.12 Maintenance of the Desoldering iron) |
| Blue or slight amount of red can be seen. | More than half of the indicator is red. | |

⚠ CAUTION:

Any time there is a noticeable drop in suction efficiency, first clean the nozzle and heating element with the cleaning pin. If the drop persists, replace the filters on the 817 AND station.

- ③ Replace the entire filter pipe with the provided backup filter pipe. ② Pull



Problems during desoldering

1. The solder in the junction is not sufficiently melted.

- Temperature is not high enough. Many assemblies require a greater heat capacity to desolder, including multilayer P.W.B.s, power supplies, ground planes in through-hole P.W.B.s, high-capacity transistors, triacs with heat radiation fins, tuner P.W.B. ground wires, and large-scale transformer terminals.

Use a pre-heater, such as the Hakko 853, or other heat source to heat the P.W.B. to a temperature between 70-80°C. (160-180°F.) that will not damage the board or its components, then desoldering. Do not increase the temperature of the gun by recalibration as this may damage the P.W.B. and its components.

2. The nozzle is worn out.

- When the nozzle begins to wear out, the heating efficiency begins to decline. Check the nozzle. If the solder plating is damaged, or the nozzle is eroded, replace the nozzle.

3. Suction power is dropping.

- Replace the filters, and clean the nozzle and the inside of the heating element, as described in the section on maintenance.

4. Air is leaking from the vacuum system.

Check the air-tightness of the following parts and replace any that are worn.

- | | |
|---|---|
| a. Contact point of the nozzle and heating element. (for Hakko 807 & 817) | c. O-ring in the back holder (for Hakko 817 only) |
| b. Front holder and nearby parts. (for Hakko 807 & 817) | d. Hose (for Hakko 807 & 817) |
| | e. Vacuum outlet cap (for Hakko 807 & 817) |
| | f. Packing and nearby parts (for Hakko 817 only) |

NOTE:

Air leakage cannot be determined from the indicator (for Hakko 817 only)

Post-operation maintenance.

To ensure a long service life, always perform the following maintenance procedures immediately after using the Hakko 472D unit.

- Remove all solder from the inside of the nozzle and heating element. Refer to MAINTENANCE, p.12.
- Clean the tip of the nozzle with the cleaning sponge, then coat the tip with a fresh layer of solder to protect the solder plating.

PARAMETER SETTING

The HAKKO 472D has the following parameters. Parameter settings can be adjusted.

1. °C or °F temperature display selection.
2. Low temperature tolerance.
3. Display of room temperature compensation value (test mode)

Once parameter input mode has been entered, set the parameters in the order shown below. After all the parameters have been set, normal operation will be resumed.

1. °C (Celsius) or °F (Fahrenheit) temperature display.

1. Turn off the power switch.
2. Insert the control card into the slot in the station.
3. Press and hold the **UP** and **DOWN** buttons simultaneously, then turn on the power switch.
4. Continue holding down the **UP** and **DOWN** buttons until the display shows °C (for Celsius) or °F (for Fahrenheit).
5. When the display shows °C or °F, the station is in parameter input mode.
6. Pressing the **UP** or **DOWN** button will cause °C or °F to be displayed alternately.
7. Press the **✖** button to select the scale. The low temperature tolerance may now be entered.

2. Low temperature tolerance. (Flashing of the temperature display)

When the station enters the 'low temperature tolerance' setting mode, the HUNDREDS digit will begin flashing. Enter and store the value in the same manner as described in 'Changing the temperature setting'.

Range of allowable heater error temperatures

For °C: 30 – 150°C For °F: 60 – 300°F

If a temperature value outside this range is selected, the display will again flash the HUNDREDS digit. If this happens, reenter a correct temperature value.

After setting the low temperature tolerance value, the display will show the room temperature compensation value (test mode).

3. Room temperature compensation value. (Test Mode)

The display will not blink and the heater will not receive power. The room temperature compensation value is the measured temperature of the nozzle. This function will be used later to calibrate the nozzle temperature. (See "Recalibrate the temperature" on P.18)

No inputs are made here. Press **✖** to complete parameter input. The nozzle temperature setting will be displayed for 2 seconds, after which power will be supplied to the heater and normal temperature control will begin.

MAINTENANCE

Efficient desoldering depends upon the temperature, the quality and quantity of the solder and flux. Perform the following service procedures as dictated by the conditions of use.

During maintenance, please wear gloves and work carefully.

⚠ WARNING:

Since the desoldering iron/gun can reach a very high temperature, please work carefully. Except when cleaning the nozzle and heating element, always turn the power switch off and disconnect the power plug before performing any maintenance procedure.

Servicing the Desoldering iron

1. Inspect and clean the nozzle.

- Plug in the power cord, turn the power switch "ON" and let the nozzle heat up.
- Clean out the hole of the nozzle with the nozzle cleaning pin.

If the nozzle cleaning pin does not pass through the nozzle, use the cleaning drill (option).

NOTE:

- The cleaning drill is not included.
- The cleaning pin will not pass through the nozzle until the solder inside the nozzle is completely melted.
- Verify that the correct cleaning pin is used for the nozzle. The inside diameter of the nozzle is stamped on the side of the nozzle.

- Check the condition of the solder plating, surface and inside hole of the nozzle.

If it is slightly worn, recoat the tip with fresh solder.

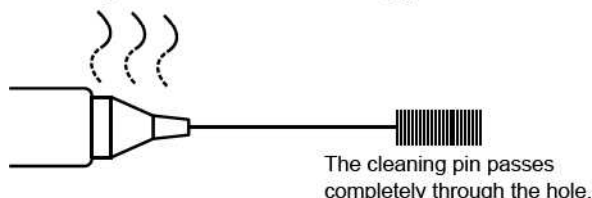
- If it is worn or eroded, or the inside diameter seems unusually wide, replace the nozzle.

NOTE:

The inside hole and the surface of the nozzle is plated with a special alloy. Should this alloy become eroded by high temperature solder, the nozzle will not be able to maintain the proper temperature.

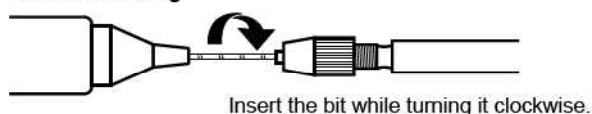
- If the cleaning pin or cleaning drill do not pass through the hole in the nozzle, replace the nozzle.

Cleaning with the nozzle cleaning pin.

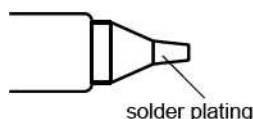
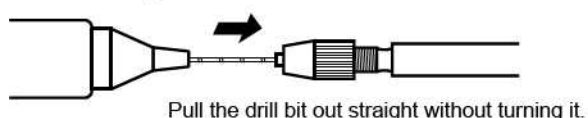


Cleaning with the cleaning drill (option).

• Before cleaning



• After cleaning

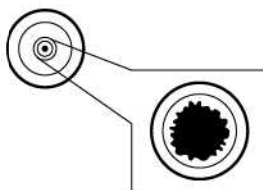


⚠ CAUTION

If the cleaning drill is forced into the nozzle, the drill bit could break or be damaged.

⚠ CAUTION

Please use the proper sized cleaning pin or cleaning drill for the nozzle diameter.



Diameter of hole is widened through erosion.

NOTE:

Unfortunately, it is often difficult to observe this condition, therefore, if desoldering efficiency goes down and all other parts appear to be OK, the nozzle is probably eroded and should be replaced.

2. Remove the element cover, nut and nozzle.

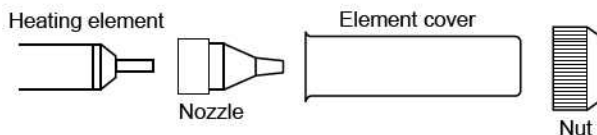
⚠ CAUTION:

The heating element is very hot during operation.

3. Clean out the hole in the heating element.

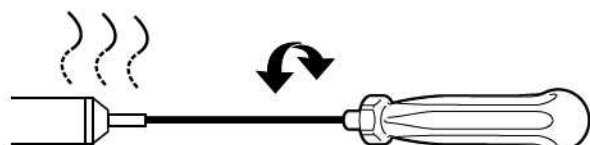
Be sure the solder in the hole in the heating element is completely melted, then clean the hole with the cleaning pin provided.

If the cleaning pin cannot pass through the hole, replace the heating element.



Remove the nut with the spanner.

Scrape away all oxidation from the hole in the heating element until the cleaning pin passes cleanly through the hole.

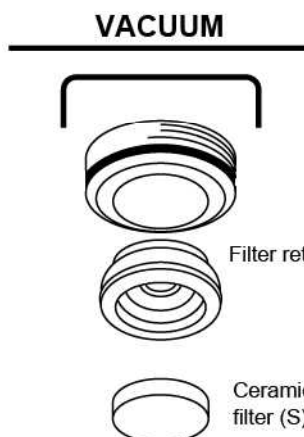


The cleaning pin passes cleanly through the hole.

Cleaning the inside of the filter case

1. Replace the ceramic paper filter (S).

Remove the ceramic paper filter (S) and inspect it. If it is stiff with flux, replace it.

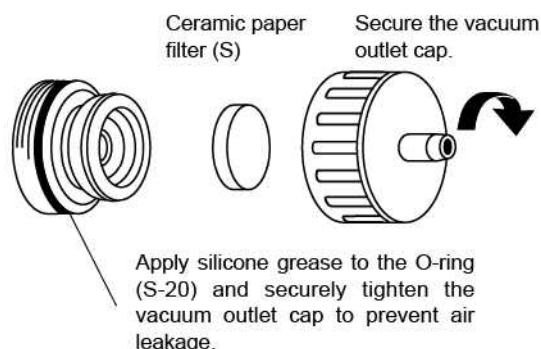


Remove the filter retainer and push out the ceramic paper filter.

2. Reassemble the filter case.

⚠ CAUTION:

Insert the SMALL ceramic paper filter into the filter retainer at the station. Using the large ceramic paper filter may damage the unit, or reduce the effectiveness of the unit.



MAINTENANCE

Cleaning the pump

1. Disassemble the pump heads.

- Unplug the power cord.
- Remove the cover screws. (right/left)
- Remove the cover.
- Remove the pump head from each side of the pump.

2. Clean the pump head.

- Remove the valve plate and fixing plate.
- Remove any flux adhering to the plates with isopropyl alcohol.
- If the valve plate is bent or stiff, replace it.
- If the exhaust filter is dirty, replace it.

⚠ CAUTION:

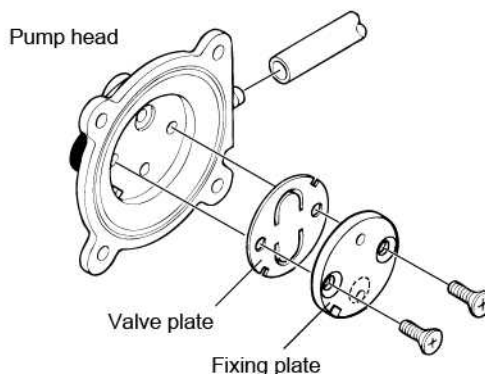
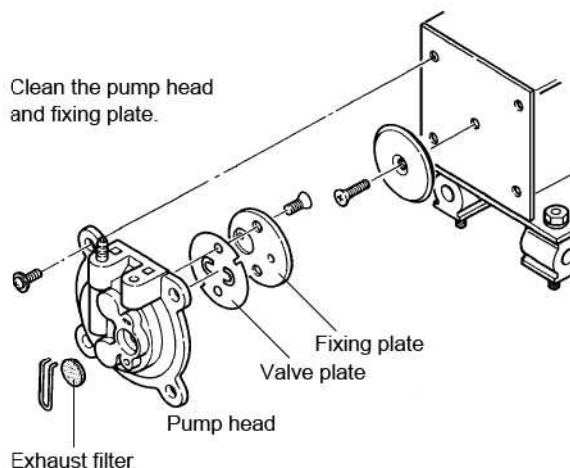
- If the fixing plate is difficult to remove, apply hot air to warm it.
- Never use excessive force to remove the plate as it is easy to bend, and a bent plate will allow a leak, which reduces the efficiency of solder extraction.
- Clean the plates only with alcohol or thinner.

3. Reassemble the pump heads.

Reassemble the valve plate and fixing plate.

⚠ CAUTION:

When assembling the pump, be sure to check for air leaks.



MAINTENANCE

Hakko 807

● Replacing the filters.

1. Turn the back holder knob counterclockwise and pull out the filter pipe.
2. If there is solder in two-thirds of the spring filter, replace the filter.
3. If the ceramic paper filter is stiff with flux and solder, replace the filter.
4. Insert the spring filter into the filter pipe.
5. Insert the ceramic paper filter and put the back holder into the filter pipe.
6. Insert the filter pipe into the main body and secure it by turning the back holder knob clockwise.

● Replacing the heating element.

Check the resistance value.

The resistance values of a working heating element are 9.2Ω between pins 1 and 3 (heating element), 54Ω between pins 2 and 4 (sensor) at 73°F (23°C).

If the measured values are outside this range, replace the heating element.

(No. A1174 24V-60W heating element for Hakko 807)

Replacing the heating element.

1. Unplug the cord.
2. Remove the nut, element cover, and nozzle.
3. Turn the back holder knob counterclockwise and pull out the filter pipe.
4. Remove the housing fastener.
5. Remove the screws securing the housing ⑨ and the screws ③ ④ securing the flange to the housing.
6. Remove the front holder.
7. Remove the screw ⑤ ⑥ ⑦ securing the heating element to the flange, and the screw ① ②.

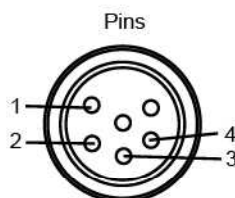
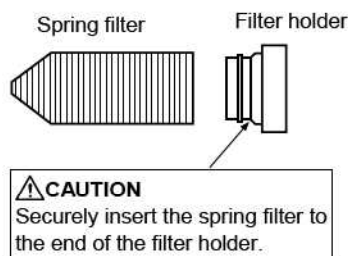
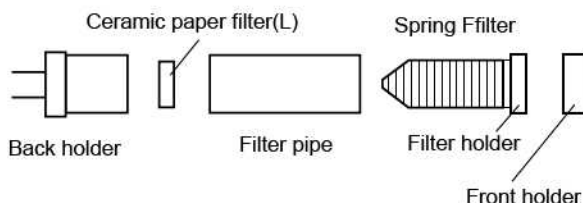


Fig. 1

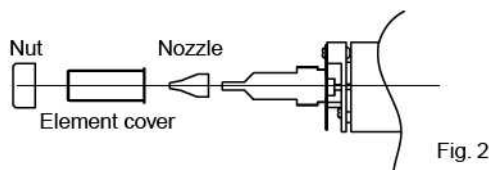


Fig. 2

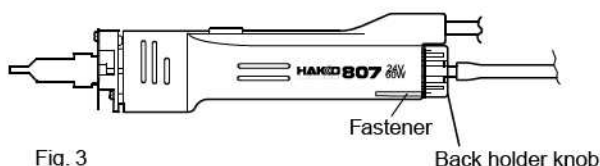


Fig. 3

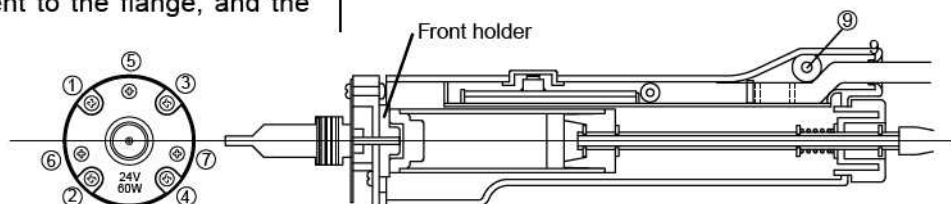


Fig. 4

MAINTENANCE

8. Desolder the heating element leads (marked H) and sensor leads (marked S).
9. Remove the old heating element and replace it with a new one.
10. Bend the lead wire as shown in Fig. 6, and pass two red leads and two white leads through the holes as shown in Fig. 7.
11. Secure a heating element to the flange with the screws ⑤ ⑥ ⑦.
12. Resolder the heating element leads (red wires/H) sensor leads (white wires/S).
13. Reassemble the unit.



Fig. 5

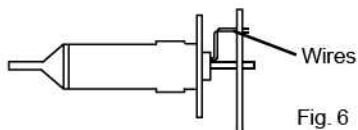


Fig. 6

CAUTION

Be careful not to twist and pull the lead wire when installing the heating element.

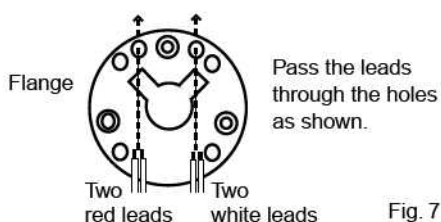


Fig. 7

NOTE:

Be sure the insulation on the leads touches the board. Do not leave any bare wire exposed.

MAINTENANCE

Hakko 817

● Replacing the filters.

CAUTION:
The filter pipe is very hot.

1. Turn the power switch OFF.
2. When the filter pipe is cool to touch, push down the release knob at the back of the gun and remove the filter pipe.
3. If the ceramic paper filter is stiff with flux and solder, replace the filter.
4. Insert the ceramic paper filter and attach the spring filter to the front holder.
5. Insert the front holder into the filter pipe.
6. Insert the filter pipe into the main body.

● Replacing the heating element.

WARNING:
Unplug the power cord before starting this procedure.

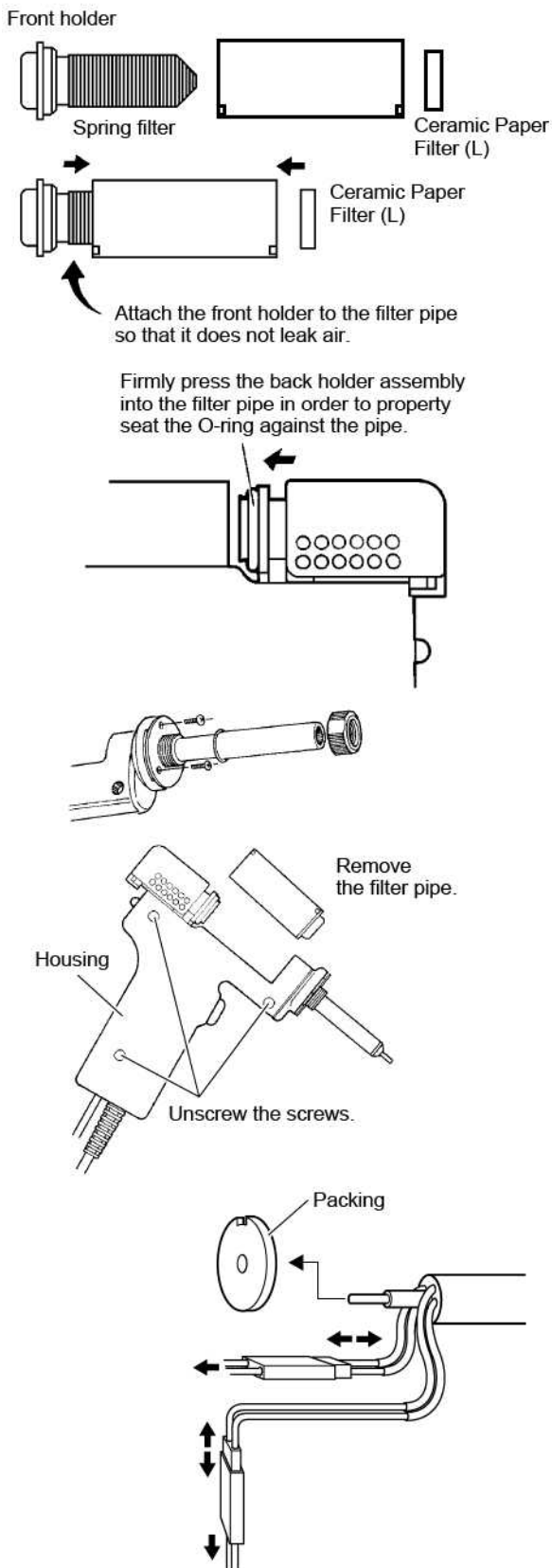
Check the resistance value

The resistance values of a working heating element are 9.2Ω between pins 1 and 3 (heating element), 54Ω between pins 2 and 4 (sensor) at 73°F (23°C). If the measured values are outside this range, replace the heating element.
(No.A1507 24V-60W heating element for Hakko 817)

Replacing the heating element.

1. Unplug the cord.
2. Remove the nut, element cover and nozzle.
3. Remove the screws securing the heating element to the housing.
4. Remove the screws securing the housing and separate the housing.
5. Remove the packing.
6. Detach the terminal.
7. Remove the old heating element and replace it with a new one.
8. Reassemble the unit.

CAUTION:
Be sure to place the packing to prevent air escaping.
Failure so to do will cause a loss in suction.



● Replacing the cord (For Hakko 807 and 817)

Test method 1

1. Turn the unit on.
2. Set the temperature to 450°C (842°F).
3. Before the iron/gun reaches the set temperature, wiggle the cord at various points along the length of the cord, including in the strain relief area at the base of the iron/gun housing. If the heater lamp flickers, the cord is broken and should be replaced.

Test method 2

Check the resistance between each pin on the connecting plug and its associated wire on the terminal board inside the housing.

All measured values should be 0Ω. If any value is greater than 0Ω, replace the cord.

● Recalibrate the temperature

- (a) Set the desired temperature.
- (b) Adjust the temperature calibration pot (CAL) until the nozzle temperature (measured with a thermometer) is correct.

⚠ CAUTION:

Never set the nozzle temperature above the maximum temperature. It will cause problems.

⚠ CAUTION:

The heater lamp will flicker if the iron/gun temperature is allowed to reach the set temperature. Before replacing the cord, be sure that this is not the reason for the flickering.

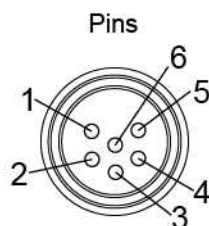


Figure 2.

Desoldering station connector

- Pin 1 – Black
- Pin 2 – White
- Pin 3 – Red
- Pin 4 – White
- Pin 5 – Green
- Pin 6 – Blue


⚠ CAUTION:

There are two white wires. Check another combination if the first one is not 0.


ERROR MESSAGES

Various error messages will be displayed when there is a problem with the Hakko 472D unit. If the following message is displayed, refer to "TROUBLESHOOTING GUIDE".

System Error

After the power has been turned on, the system checks the memory and the programs. If an abnormality is found,  will be displayed, and all operations will be completely stopped.

Sensor Error

If there is a possibility of a failure in the sensor or anywhere in the sensor circuit,  will be displayed and power to the desoldering iron will be cut off.

The sensor error also occurs if the cord assembly is not properly connected.

Low temperature tolerance (Flashing of the temperature display)

If power is present at the desoldering tool and the nozzle temperature goes below the heater error temperature tolerance setting, the temperature display will flash. This indicates the possibility of a heater malfunction.

EXAMPLE:

Assume the temperature setting is 400°C (750°F) and the low temperature tolerance is 50°C (100°F). If, even though the heater is receiving power, the temperature of the desoldering iron goes below 350°C (650°F) the display will begin to flash, indicating a possible heater malfunction.

EXAMPLE:

$400 - 50^{\circ}\text{C} = 350^{\circ}\text{C}$; $(750 - 100^{\circ}\text{F} = 650^{\circ}\text{F})$
→ The display will begin to flash.

NOTE:

If the temperature begins to rise again, the display will stop flashing – even if the displayed temperature is below 350°C (650°F).

BEFORE SERVICING

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 authorised service agent, or a similarly qualified technician to avoid hazard.

TROUBLESHOOTING GUIDE

Troubleshooting Guide

● Power lamp does not light up.

- **Is the power cord plugged in correctly?**

Securely insert the power cord into the power supply.

- **Is the fuse blown?**

Investigate why the fuse blew and then replace the fuse. If the cause can not be determined, replace the fuse. If the fuse blows again, send the unit in for repair.

Example Is the inside of the gun short-circuited?

● Pump does not operate.

- **Is the cord assembly properly connected?**

Reconnect the cord assembly. (Refer to the appropriate paragraphs under 'Maintenance'.)

- **Is the nozzle or hole in the heating element clogged?**

Clean it. (Refer to the appropriate paragraphs under 'Maintenance'.)

● Solder is not being absorbed.

- **Is the spring filter full of solder?**

Replace it with a new one. (Refer to the appropriate paragraphs under 'Maintenance'.)

- **Is the ceramic filter hardened?**

Replace it with a new one.

- **Is there a vacuum leak?**

Check the connections and replace any worn parts.

● The nozzle does not heat up.

- **Is the desoldering iron/gun cord assembly properly connected?**

Reconnect it.

- **Is the heating element damaged?**

Replace it. (Refer to the appropriate paragraphs under 'Maintenance'.)

Note: When repairs are needed please send both the desoldering iron/gun and the station to your sales agent or American Hakko.

● **System Error** **---** is displayed.

Call your Hakko representative.

● **Sensor Error** **5-E** is displayed.

Insert the plug securely into the receptacle.

- Is the iron/gun cord plugged in correctly?

Replace the cord. (Refer to the appropriate paragraphs under 'Maintenance'.)

- Is the iron/gun cord good?

Replace the heating element. (Refer to the appropriate paragraphs under 'Maintenance'.)

- Is the heating element good?

● **Low temperature tolerance is displayed frequently.**

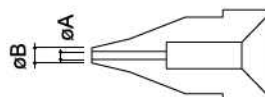
(Flashing of the temperature display.)

Increase the setting value.

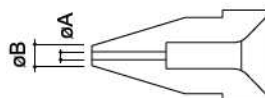
- Is the setting value for the low temperature tolerance too low?

REPLACEMENT/OPTIONAL PARTS

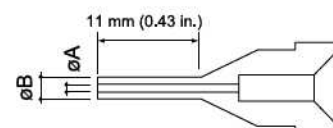
Replacement and optional parts for Hakko 807/817



| Part No. | øA | øB |
|----------|-------------------|-------------------|
| A1002 | 0.8 mm (0.03 in.) | 2.3 mm (0.09 in.) |
| A1003 | 1.0 mm (0.04 in.) | 2.0 mm (0.08 in.) |
| A1393 | 1.0 mm (0.04 in.) | 1.6 mm (0.06 in.) |
| A1395 | 1.3 mm (0.05 in.) | 2.3 mm (0.09 in.) |
| A1487 | 0.6 mm (0.02 in.) | 1.5 mm (0.06 in.) |



| Part No. | øA | øB |
|----------|-------------------|-------------------|
| A1004 | 0.8 mm (0.03 in.) | 2.3 mm (0.09 in.) |
| A1005 | 1.0 mm (0.04 in.) | 2.5 mm (0.1 in.) |
| A1006 | 1.3 mm (0.05 in.) | 3.0 mm (0.12 in.) |
| A1007 | 1.6 mm (0.06 in.) | 3.0 mm (0.12 in.) |
| A1396 | 2.3 mm (0.09 in.) | 4.0 mm (0.16 in.) |



| Part No. | øA | øB |
|----------|-------------------|-------------------|
| A1394 | 1.0 mm (0.04 in.) | 2.3 mm (0.09 in.) |

• Cleaning Pin/Drill

| Part No. | Part name/Description |
|----------|--|
| B1215 | Cleaning pin for heating element |
| B1086 | Cleaning pin for ø0.8 mm (0.03 in.) nozzle |
| B1087 | Cleaning pin for ø1.0 mm (0.04 in.) nozzle |
| B1088 | Cleaning pin for ø1.3 mm (0.05 in.) nozzle |
| B1089 | Cleaning pin for ø1.6 mm (0.06 in.) nozzle |
| B1302 | Cleaning drill for ø0.8 mm (0.03 in.) nozzle |
| B1303 | Cleaning drill for ø1.0 mm (0.04 in.) nozzle |
| B1304 | Cleaning drill for ø1.3 mm (0.05 in.) nozzle |
| B1305 | Cleaning drill for ø1.6 mm (0.06 in.) nozzle |

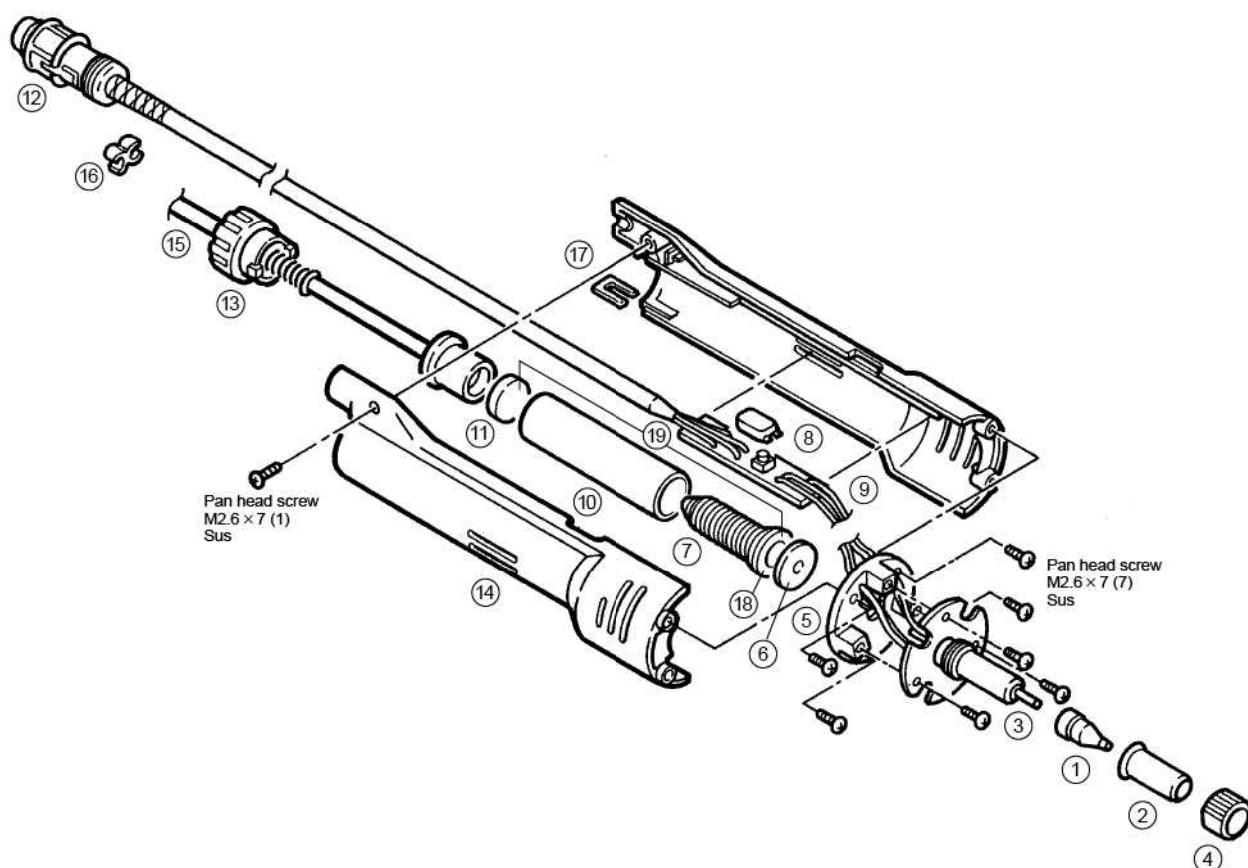
Spanner, cleaning brush, silicone grease, iron holder

| Part No. | Part name/Description |
|----------|-----------------------|
| B2100 | Spanner (for 807/817) |
| B1670 | Cleaning brush |
| A1028 | Silicone grease |
| B2729 | Iron holder for 807 |
| B2832 | Iron holder for 817 |
| A1319 | Packing for Hakko 817 |

PARTS LIST (Iron for Hakko 807)

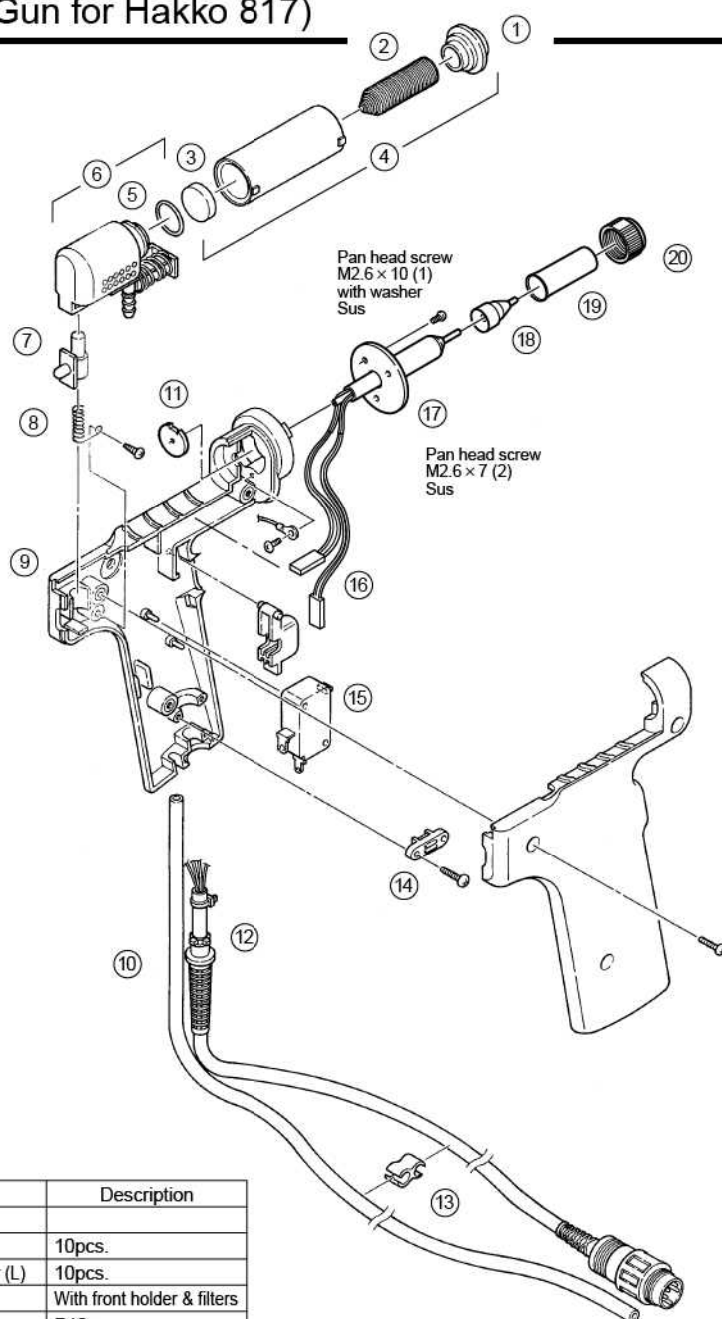
NOTE:

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 | | Nozzle | See P.22 |
| 2 | B1653 | Element cover | |
| 3 | A1174 | Heating element | 24V-60W |
| 4 | B1015 | Nut | |
| 5 | B1654 | Flange | |
| 6 | A1304 | Front holder | |
| 7 | A1030 | Spring filter | Set of 10 |
| 8 | B1655 | Button | |
| 9 | B1656 | Board | With switch |
| 10 | B1916 | Filter pipe | |
| 11 | A1033 | Ceramic paper filter (L) | Set of 10 |
| 12 | B1657 | Cord assembly | |
| 13 | B1917 | Back holder assembly | |
| 14 | B1659 | Housing | With a screw & fastener |
| 15 | B1023 | Hose | |
| 16 | B1024 | Cord holder | Set of 4 |
| 17 | B1660 | Housing fastener | |
| 18 | B1915 | Filter holder | |
| 19 | B2517 | Filter pipe asse'y | With filter holder & filters |

PARTS LIST (Gun for Hakko 817)

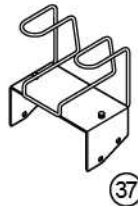


| Item No. | Part No. | Part Name | Description |
|----------|----------|--------------------------|-----------------------------|
| 1 | A1314 | Front holder | |
| 2 | A1030 | Spring filter | 10pcs. |
| 3 | A1033 | Ceramic paper filter (L) | 10pcs. |
| 4 | B2073 | Filter pipe | With front holder & filters |
| 5 | A1012 | O-ring | P12 |
| 6 | B1018 | Back holder assembly | |
| 7 | B1019 | Release knob | |
| 8 | B1020 | Spring for release knob | |
| 9 | B2830 | Housing | With screws |
| 10 | B1023 | Hose | |
| 11 | A1319 | Packing | |
| 12 | B2831 | Cord assembly | With micro switch & plug |
| 13 | B1024 | Cord holder | Set of 4 |
| 14 | B1022 | Cord stopper | |
| 15 | B1026 | Micro switch | |
| 16 | B1021 | Trigger | |
| 17 | A1507 | Heating element | 24V-60W |
| 18 | | Nozzle | See P:22 |
| 19 | B1653 | Element cover | |
| 20 | B1015 | Nut | |

PARTS LIST (Station)

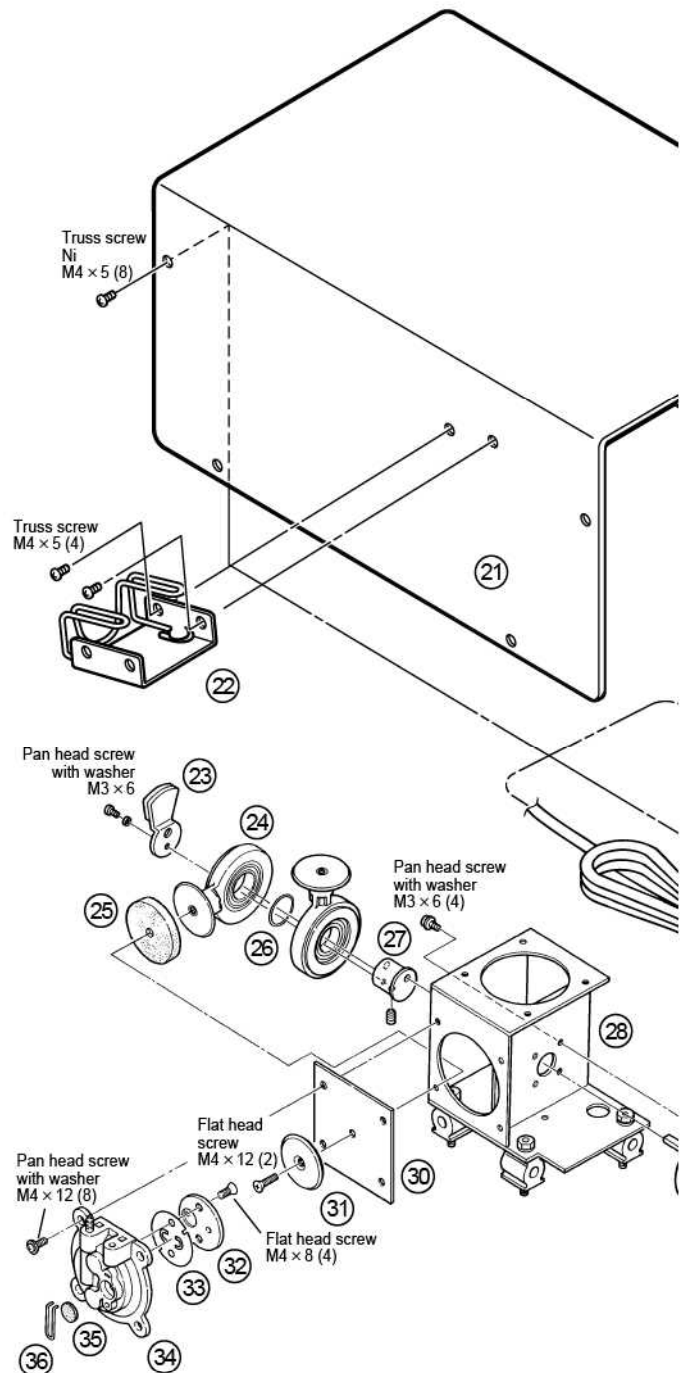
NOTE:

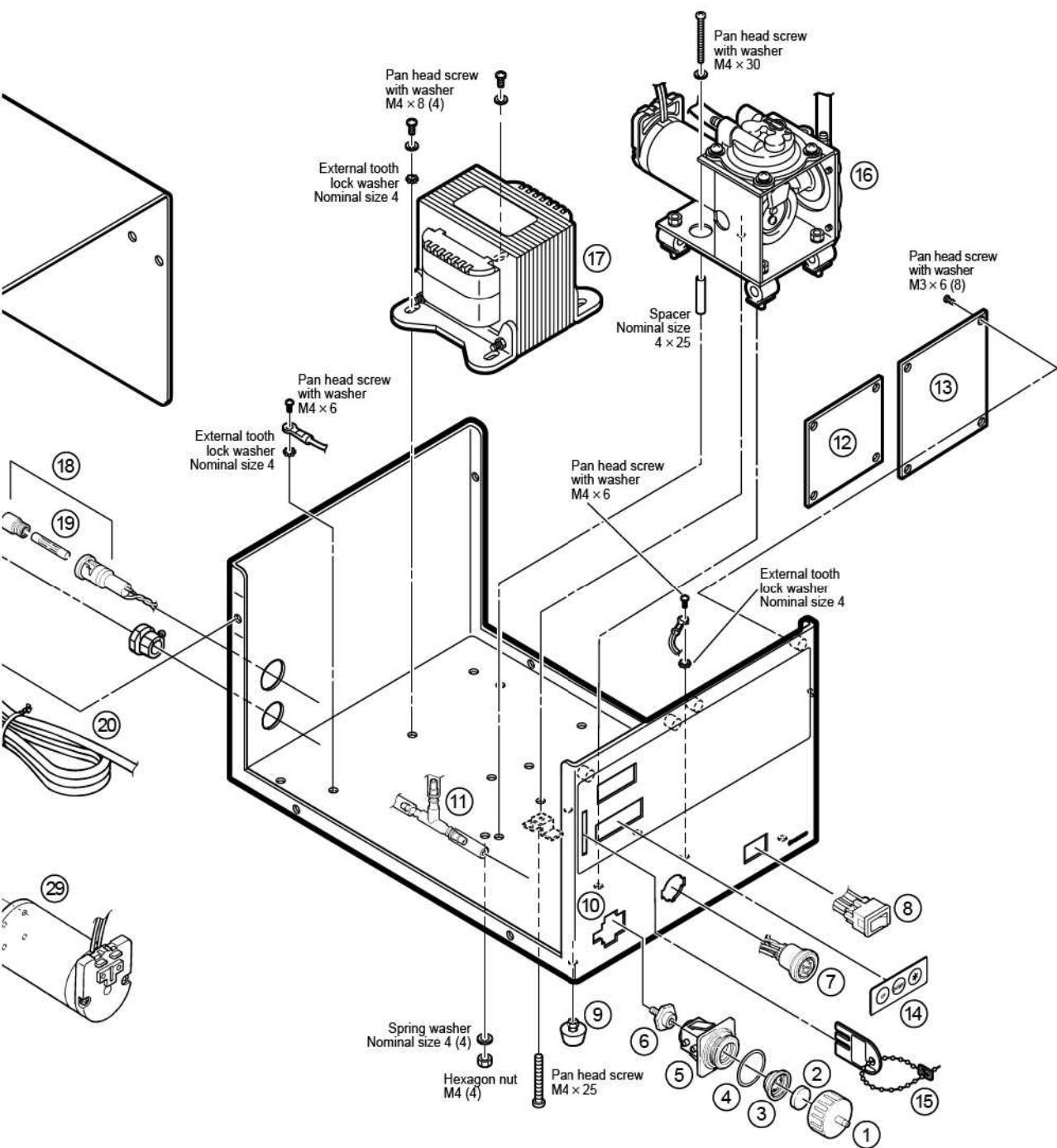
Spare or repair parts do not include mounting screws, if they are not listed on the description. Screws must be ordered separately.



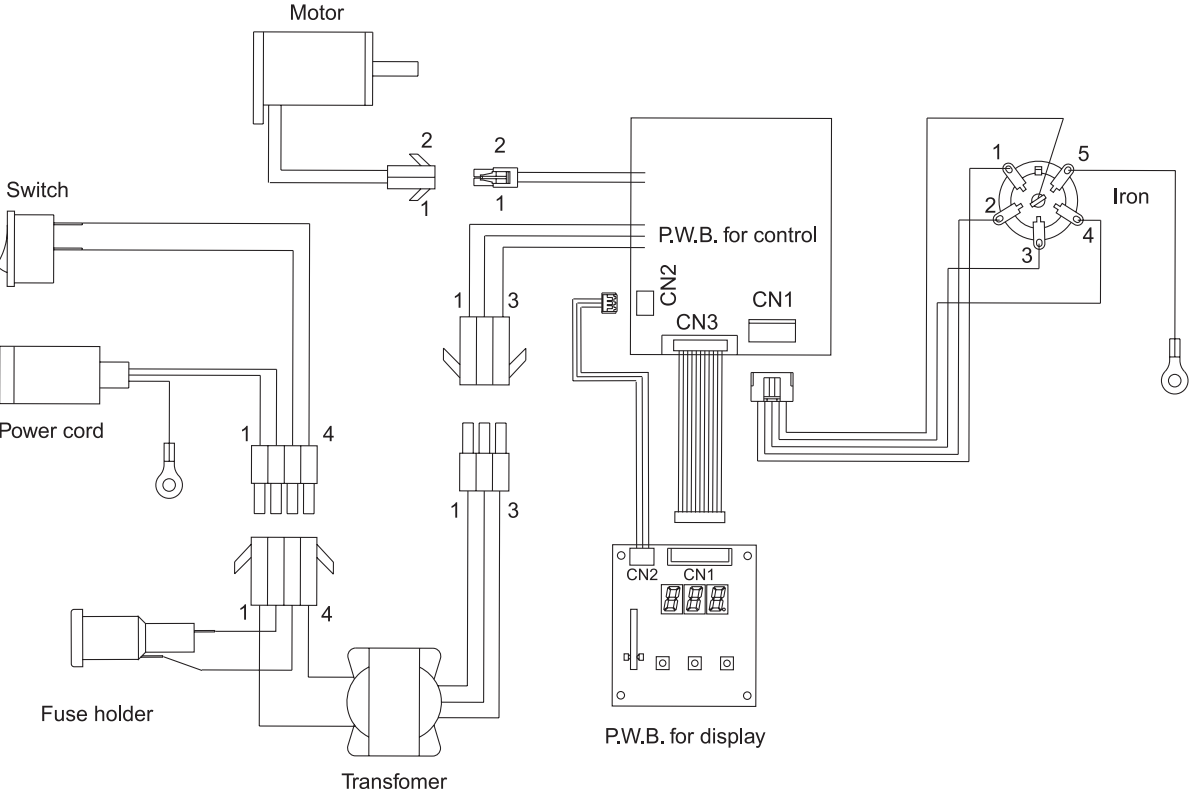
● 472D Station

| Item No. | Part No. | Part Name | Description |
|----------|----------|------------------------------------|-----------------------|
| 1 | B1029 | Vacuum outlet cap | |
| 2 | A1009 | Ceramic paper filter (S) | Set of 10 |
| 3 | B1063 | Filter retainer | |
| 4 | B1034 | O-ring | S-20 |
| 5 | B1031 | Vacuum outlet retainer | With O-ring & screws |
| 6 | B1064 | Filter case joint | |
| 7 | B1662 | Receptacle | |
| 8 | B1084 | Power switch | |
| 9 | B1204 | Rubber foot | |
| 10 | B2724 | Chassis | With rubber foot |
| 11 | B2314 | Hose assembly | |
| 12 | B2726 | P.W.B. for display | |
| 13 | B2727 | P.W.B. for heat control | |
| 14 | B2047 | Membrane sheet | |
| 15 | B2388 | Control card | |
| 16 | B2444 | Pump assembly | |
| 17 | B2728 | Transformer | |
| 18 | B1041 | Fuse holder | |
| 19 | B1275 | Fuse | 250V-2A (U) |
| 20 | B2068 | Power cord, 3 core & American plug | |
| 21 | B2725 | Cover | |
| 22 | B2729 | Iron holder | for 807 w/screws |
| 23 | B1053 | Balance weight | |
| 24 | B1312 | Crank | |
| 25 | B2506 | Damper | Set of 2 |
| 26 | B1057 | Ring for bearing | |
| 27 | B2060 | Crank shaft | With screw |
| 28 | B2059 | Pump flame | |
| 29 | B2058 | Motor | |
| 30 | A1013 | Diagram | Set of 2, with screws |
| 31 | B2085 | Diagram setting plate | |
| 32 | B1056 | Fixing plate | |
| 33 | A1014 | Valve plate | Set of 2 |
| 34 | B1050 | Pump head | With screws |
| 35 | B1059 | Exhaust filter | Set of 2 |
| 36 | B1313 | Filter retaining pin | |
| 37 | B2832 | Iron holder | for 817 w/screws |





WIRING DIAGRAM



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) |
| 泵組件 | × | ○ | ○ | ○ | ○ | ○ |
| 過濾管接合套 | × | ○ | ○ | ○ | ○ | ○ |
| 吸錫槍部 | × | ○ | ○ | ○ | ○ | ○ |
| 電路板 | × | ○ | ○ | ○ | ○ | ○ |
| 保險絲套 | × | ○ | ○ | ○ | ○ | ○ |

○：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。

CAUTION

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.



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