

HAKKO 374

SELF FEEDER

FEEDER WITH
SOLDER CUTTING FUNCTION

Instruction Manual



Thank you for purchasing the Hakko 374 Self Feeder. Please read this manual carefully before operating the Hakko 374. Store the manual in a safe, easily accessible place for future reference.



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SAFETY INSTRUCTIONS

- To avoid injury, do not attempt to assemble while the soldering iron is hot.
- The cutting plate is sharp. Be careful not to cut your fingers.
- When resin core solder that has been cut is not used, the properties of the resin (flux) may deteriorate with time.
- Once the solder has been cut and is inside the guide pipe, the heat from the soldering iron may accelerate the deterioration of the resin (flux). Use solder that is inside the guide pipe as soon as possible.
- Do not damage the guide pipe by bending or twisting it.
- Do not allow the tube to be bent at a severe angle. Otherwise, it will become clogged with solder.
- Keep the cutting blade, driving pulley, and following pulley clean of solder and flux using a brush or other suitable cleaning device.
- The switch input is no-voltage input. Do not apply voltage to the switch jack.
- Periodically remove the nozzle and clean off any accumulated flux.
- Do not damage the return length adjustment knob by turning it with excessive force.

SPECIFICATIONS

| | |
|------------------------|--|
| Power consumption | 6 W |
| Motor rating | 24V DC, 3.2 W |
| Solder diameter | 0.6, 0.8, 1.0, 1.2, 1.6 mm (0.02, 0.03, 0.04, 0.05, 0.06 in.) |
| Solder feed time | 0 to 7 sec. |
| Solder feed speed | 4.5 to 26 mm/sec. (0.18 to 1.02 in./sec.) |
| Solder feed quantity | 0 to 182 mm (0 to 7.17 in.) |
| Solder return quantity | 0 to 5 mm (fixed speed) (0 to 0.2 in.) |
| Outer dimensions | 107(W) × 106(H) × 215(D) mm (4.2(W) × 4.2(H) × 8.5(D) in.) |
| Weight | 1.6 kg (3.5 lb.) |

*Specifications and design subject to change without notice.

● Solder diameters

The solder diameters that can be used with the Hakko 374 are shown in the table below. Certain parts may need to be changed to accommodate the desired diameter. See “Changing the solder diameter” on page 4 for details.

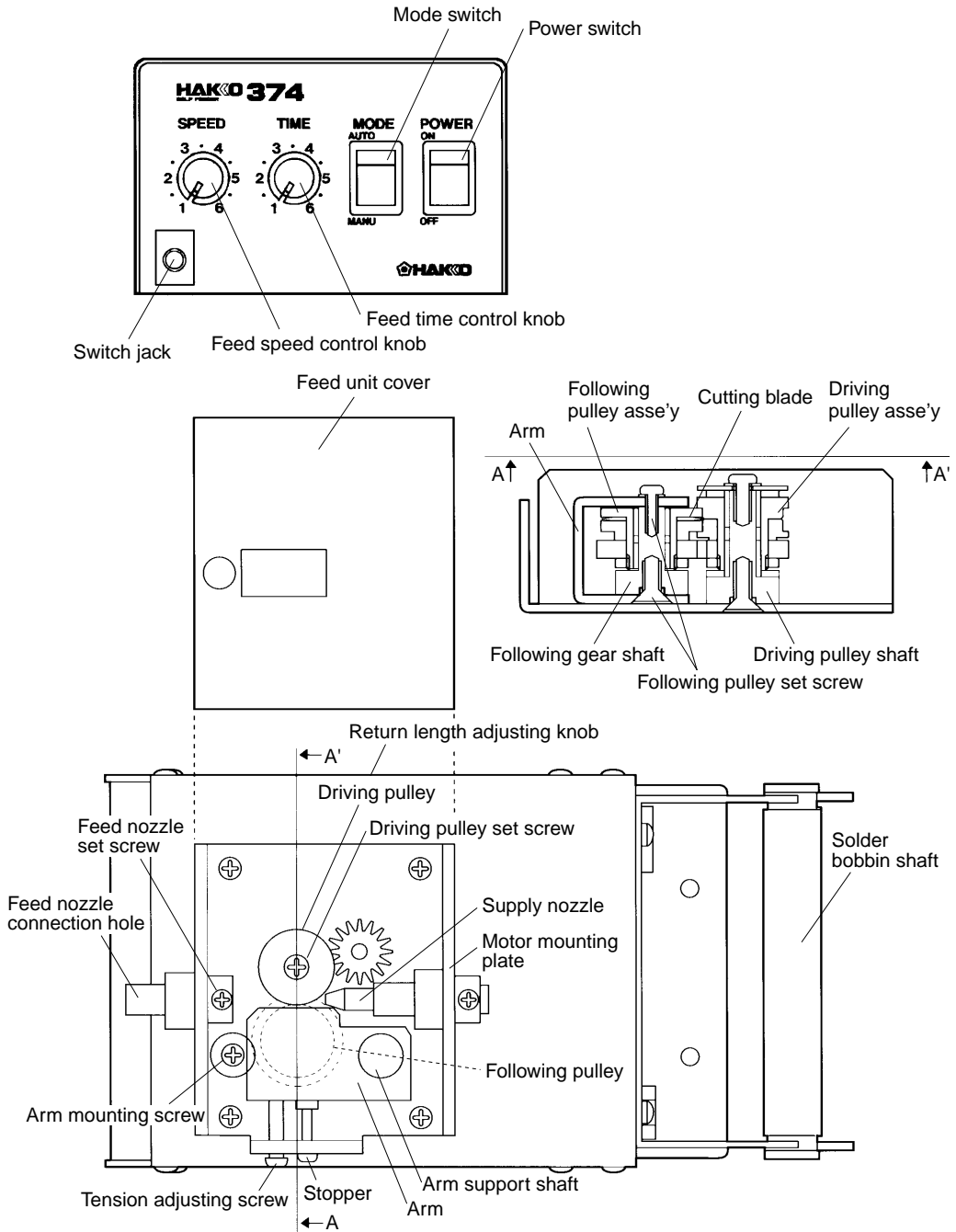
Up to 1-kg bobbins of solder can be used.

● Soldering irons

| Soldering iron | Comments |
|---|--------------------------------|
| Hakko 900M (used with Hakko 926, 927, and 928) | |
| Hakko 900L (used with Hakko 926, 927, and 928) | |
| Hakko 902 (used with Hakko 931 and 932) | |
| Hakko 904 (used with Hakko 929) | |
| Hakko Dash | |
| Hakko Mach I | Only when foot-switch is used. |
| Hakko 907 (used with 936 and 937) | |
| Hakko 908 (used with 936 and 937) | |

PART NAMES

● Feed controller unit

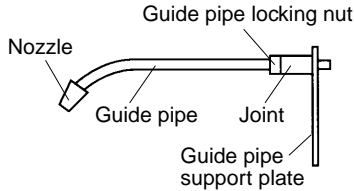


PART NAMES (IRON SIDE)

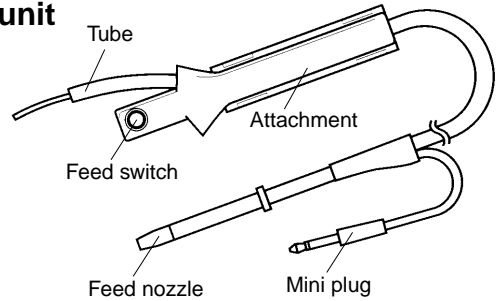
The guide pipe assembly and the tube unit are optional.

Select in accordance with the soldering iron and solder diameter to be used. (See page 8.)

● Guide pipe assembly



● Tube unit



ASSEMBLY (IRON SIDE)

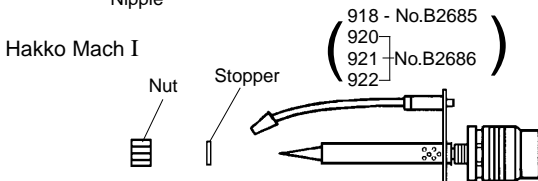
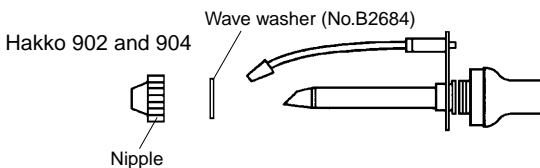
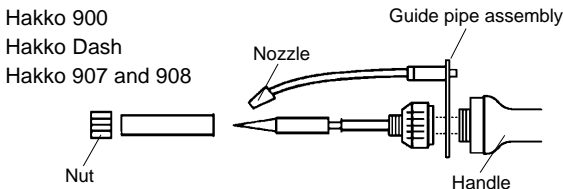
Make sure the selected guide pipe assembly or tube unit matches the soldering iron and solder diameter to be used.

(1) Attaching the guide pipe assembly

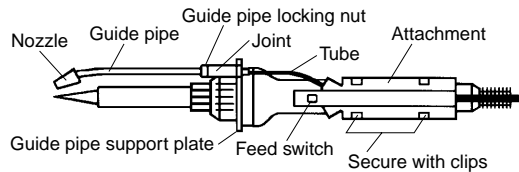
The guide pipe assembly is attached between the nipple (or nut) and the handle. Depending on the type of soldering iron, a washer may be necessary. See the figures below.

CAUTION

- To avoid injury, do not attempt to assemble while the soldering iron is hot.
- Do not damage the guide pipe by bending or twisting it.
- Do not allow the tube to be bent at a severe angle. Otherwise, it will become clogged with solder.

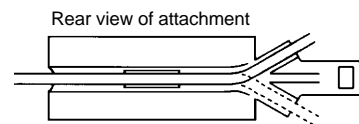


(2) Attaching the tube unit



- Attach the guide pipe assembly to the tube. The tube is double structure. Insert the inner tube into the joint and pass the outer tube over the outside of the joint so that it covers the threaded portion. Do not bend the tube.
- Attach the attachment to the soldering iron
Note) The attachment is not necessary when using the Hakko Mach I.

- Decide from which side of the attachment you will pass the tube. Then, position the attachment so that the tube connects to the guide pipe as straight as possible.

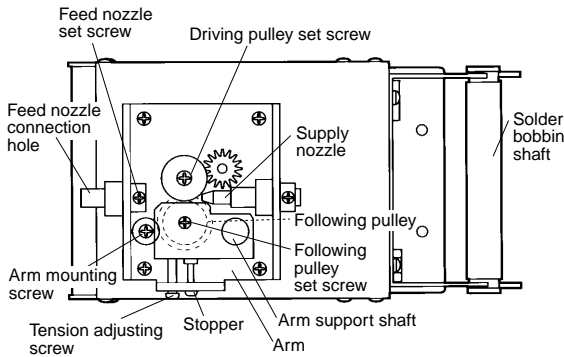


The tube can be passed through either the left or the right side of the attachment. When changing the tube, be careful not to damage the internal wiring.

- Secure the attachment with the handle and the adhesive tape on the rear of the attachment.

Refer to the figure above and be sure to attach the attachment and the guide pipe at the correct angle.

ASSEMBLY (FEED CONTROLLER UNIT)



(1) Connect the feed nozzle

Insert the feed nozzle into the feed nozzle connection hole and tighten the set screw. Do not tighten the set screw excessively or you may crack the tube.

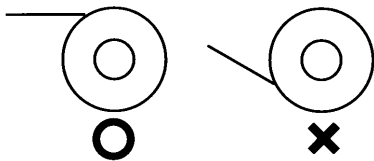
(2) Connect the mini plug

Insert the mini plug into the jack on the front of the station. When use the Mach-I, insert the footswitch plug into the jack on the front of the station.

(3) Setting the solder

If there is any solder in the tube, remove it before installing the new solder.

- (a) Pass the solder bobbin shaft through the solder bobbin and attach the shaft to the rear of the station. As shown below, attach the shaft so that the solder is fed from the top of the bobbin.



- (b) Pass the solder through the supply nozzle.
- (c) Turn the power switch ON and set the mode to **MANUAL**.
- (d) While pressing the feed switch (or footswitch), the solder is fed through the feed nozzle.
- (e) While pressing the feed switch (or footswitch), insert the tip of the solder between the driving pulley and the following pulley.

(4) Changing the solder diameter

The following parts may need to be changed in order to accommodate a change in the solder diameter or type of soldering iron used.

- Driving pulley assembly
- Following pulley assembly
- Supply nozzle
- Guide pipe assembly
- Tube unit

Change these parts as necessary according to the procedure below.

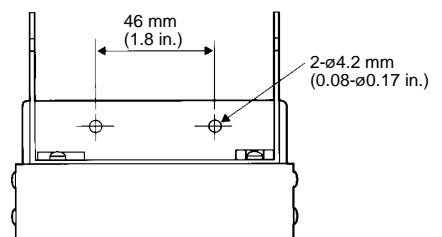
⚠ CAUTION

The position of the stopper was set at the factory before shipping. Do not move the stopper.

- (a) Turn the power OFF. Loosen the tension adjusting screw and the arm mounting screw, open the arm, and remove any solder remaining in the tube.
- (b) Remove the arm support shaft and remove the arm assembly.
- (c) Remove the following pulley set screws (two: top and bottom) and change the following pulley.
- (d) Remove the driving pulley set screw and change the driving pulley.
NOTE) Install both the top and bottom oil-less washers so that the black side of each is facing upward. (See parts list.)
- (e) Adjust so that the gears mesh properly and tighten the tension adjusting screw until the stopper screw touches the left end of the notch (screw hole) in the motor mounting plate.
- (f) Tighten the arm mounting screw.

(5) Vertical mounting

The Hakko 374 can be mounted vertically. Mount as shown in the figure.



OPERATION

To feed the solder, simply press the feed switch (or foot-switch). Details are explained below.

(1) Mode

AUTO MODE

In AUTO MODE, the solder is fed at the specified speed for the specified amount of time regardless of how long the feed switch is pressed.

MANUAL MODE

In MANUAL MODE, while pressing the switch the solder is fed at the specified speed.

(2) Setting the feed time and feed speed

Set the feed rate before setting the feed time. The feed speed setting is effective in both **AUTO** and **MANUAL** modes. The feed time is only effective in **AUTO** mode.

(3) Adjusting the return length

A specified length of solder can be retracted after the solder has been fed. This function is necessary when the Hakko 374 is used with an automatic soldering machine.

The return length setting range is 0 to 5 mm (0 to 0.2 in.). However, the solder will be wound back onto the bobbin if the return length is set to be longer than the feed length. Keep the return length setting as short as possible. Also, set the return length so that the tip of the solder stops short of the tip of the nozzle. Otherwise, the flux will tend to accumulate in the nozzle.

There is a hole on the side of unit which leads to the return length adjusting screw. Insert a screwdriver into this hole and turn the screw to adjust the return length.

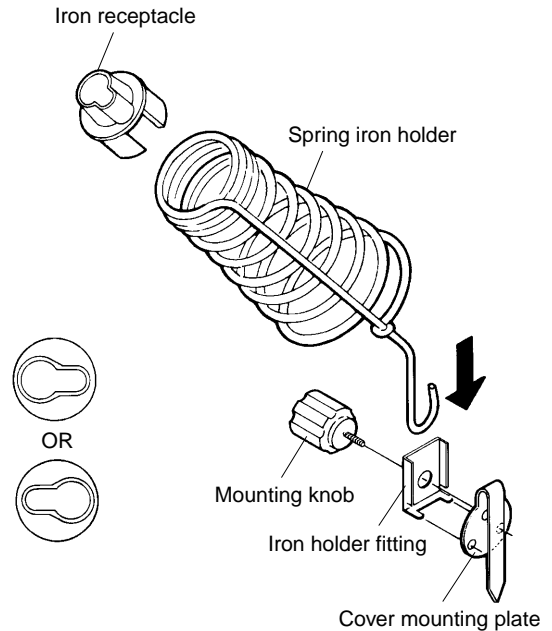
(4) Using the iron holder

⚠ CAUTION

Attach the iron receptacle so that the tip of the soldering iron and the guide pipe are parallel.

●Hakko 926

Attach the iron holder for the Hakko 926 as shown in the figure at the top of the next column. (In the case of the Hakko 926, the holder can only be attached on the left toward the front of the unit.)



●Hakko 900, 902, 904

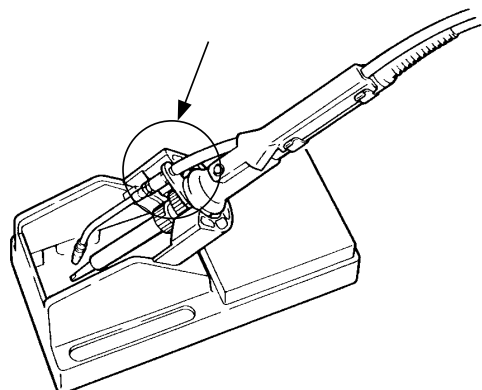
When attaching soldering units other than the Hakko 926 to the Hakko 631, all you have to do is to change the spring iron holder.

●Hakko Dash and Hakko Mach I

Use the Hakko 631 (product number: 631-07).

●Hakko 907 and 908

Use the iron holder made for the Hakko 907 and 908. Place the handpiece on the holder so that the right side of the holder and the right side of the guide pipe support plate are aligned as shown below. To align with the left side, remove the guide pipe locking nut and the joint and install the guide pipe support plate so that it is on the left side.



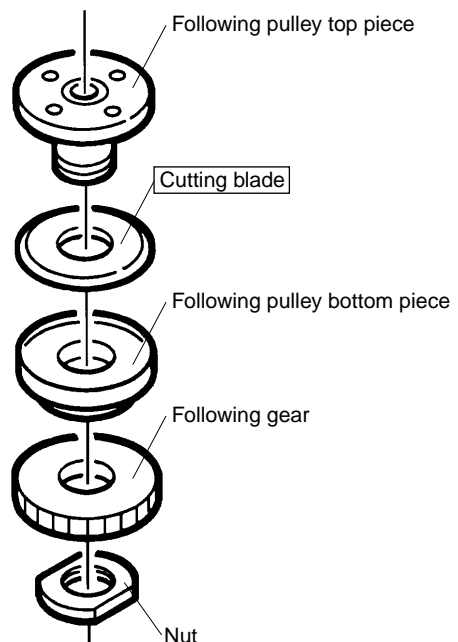
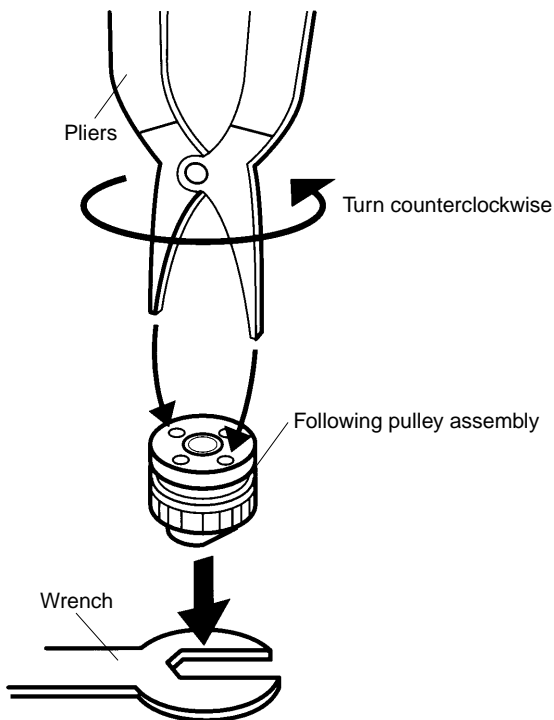
MAINTENANCE

⚠ CAUTION: The cutting blade is sharp. Be very careful when handling the cutting blade.

Keep the cutting blade, driving pulley, and following pulley clean of solder and flux using a brush or other suitable cleaning device. If the solder is not being cut properly or the unit is generating solder balls even though the unit is well maintained, the cutting blade may be worn. Follow the procedure below to change the cutting blade.

Replacing the cutting blade

1. Follow steps (a) through (c) under “Changing the solder diameter” on page 4 and remove the following pulley assembly.
2. Use a 14-mm wrench and a pair of C-ring pliers (or other pliers with a tip-size of about 2 mm 0.08 in.) to disassemble the following pulley assembly.
3. Remove the cutting blade from between the top and bottom pieces of the following pulley. If the cutting blade is difficult to remove due to accumulated flux and solder, push a pin downward through the four holes on the top piece and pry the pieces apart.
4. Clean any accumulated flux or solder off each part.
5. Assemble in the reverse order of disassembly.



OPTIONAL FEEDER PEN

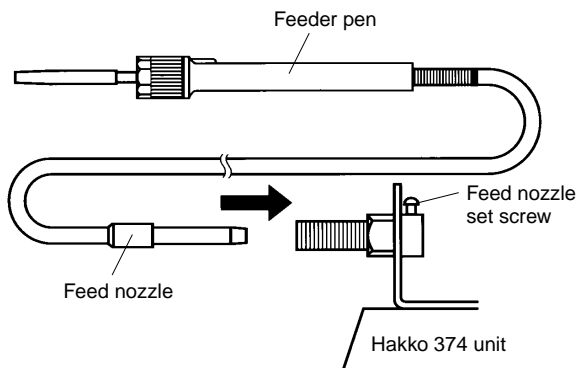
Thread solder can be fed automatically by connecting the optional feeder pen to the Hakko 374 feed controller unit. The feeder pen can be used for the following purposes.

- The feeder pen can be used for conventional soldering where the soldering iron is held in one hand and the pen is held in the other to supply the solder.
- The feeder pen can be fixed in a certain position to supply solder to a substrate automatically.

| Part No. | Part name |
|----------|--|
| C1234 | Feeder Pen, for solder diameters from 0.6 to 1.0 mm (0.02 to 0.04 in.) |
| C1235 | Feeder Pen, for solder diameters from 1.2 to 1.6 mm (0.05 to 0.06 in.) |
| B2124 | Feeder Switch (switch designed for the feeder pens) |

Assembly

(1) Connecting to the main unit

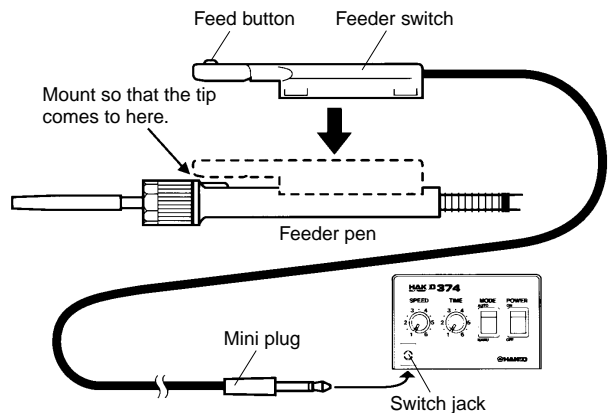


1. Make sure the feeder pen matches the solder diameter to be used.
2. Insert the feed nozzle into the feed nozzle connection hole on the feed controller unit.
3. Tighten the feed nozzle set screw.

(2) Mounting the feeder switch

(Part number: B2124)

The feeder switch is a hand-operated switch designed especially for used with the feeder pens. Solder is fed when the feed button is pressed.



1. Attach the feeder switch securely to the handle of the feeder pen with adhesive tape on the back of the feeder switch.
2. Insert the mini plug into the switch jack on the Hakko 374 unit.

* The feeder pen can also be used with a foot-switch instead of the feeder switch.

OPTIONS AND REPLACEMENT PARTS

| Part No. | Part Name | Diameter of solder | Applicable Models |
|----------|-------------------|---------------------------|-------------------|
| B1631 | Tube unit A | 0.6~1.0mm (0.02~0.04 in.) | 900M, 900L DASH |
| B1672 | Tube unit B | 1.2mm (0.05 in.) | |
| B2125 | Tube unit G | 1.6mm (0.06 in.) | |
| B1632 | Tube unit C | 0.6~1.0mm (0.02~0.04 in.) | MACH |
| B1673 | Tube unit D | 1.2mm (0.05 in.) | |
| B2126 | Tube unit H | 1.6mm (0.06 in.) | |
| B1957 | Tube unit E | 0.6~1.0mm (0.02~0.04 in.) | 902, 904 |
| B1958 | Tube unit F | 1.2mm (0.05 in.) | |
| B2127 | Tube unit I | 1.6mm (0.06 in.) | |
| B2143 | Tube unit J | 0.6~1.0mm (0.02~0.04 in.) | 907, 908 |
| B2144 | Tube unit K | 1.2mm (0.05 in.) | |
| B2145 | Tube unit L | 1.6mm (0.06 in.) | |
| B1674 | Guide pipe asse'y | 0.6mm (0.02 in.) | 900M, N452 N453 |
| B1675 | Guide pipe asse'y | 0.8mm (0.03 in.) | |
| B1676 | Guide pipe asse'y | 1.0mm (0.04 in.) | |
| B1677 | Guide pipe asse'y | 1.2mm (0.05 in.) | 900L, N454 |
| B2119 | Guide pipe asse'y | 1.6mm (0.06 in.) | |
| B1679 | Guide pipe asse'y | 0.6mm (0.02 in.) | |
| B1680 | Guide pipe asse'y | 0.8mm (0.03 in.) | 920, 921, 922 |
| B1681 | Guide pipe asse'y | 1.0mm (0.04 in.) | |
| B1682 | Guide pipe asse'y | 1.2mm (0.05 in.) | |
| B2120 | Guide pipe asse'y | 1.6mm (0.06 in.) | 918 |
| B1684 | Guide pipe asse'y | 0.6mm (0.02 in.) | |
| B1685 | Guide pipe asse'y | 0.8mm (0.03 in.) | |
| B1686 | Guide pipe asse'y | 1.0mm (0.04 in.) | 902, 904 |
| B1687 | Guide pipe asse'y | 1.2mm (0.05 in.) | |
| B2121 | Guide pipe asse'y | 1.6mm (0.06 in.) | |
| B1689 | Guide pipe asse'y | 0.6mm (0.02 in.) | 907 |
| B1690 | Guide pipe asse'y | 0.8mm (0.03 in.) | |
| B1691 | Guide pipe asse'y | 1.0mm (0.04 in.) | |
| B1692 | Guide pipe asse'y | 1.2mm (0.05 in.) | 908 |
| B2122 | Guide pipe asse'y | 1.6mm (0.06 in.) | |
| B1694 | Guide pipe asse'y | 0.6mm (0.02 in.) | |
| B1695 | Guide pipe asse'y | 0.8mm (0.03 in.) | 907 |
| B1696 | Guide pipe asse'y | 1.0mm (0.04 in.) | |
| B1697 | Guide pipe asse'y | 1.2mm (0.05 in.) | |
| B2123 | Guide pipe asse'y | 1.6mm (0.06 in.) | 908 |
| B2146 | Guide pipe asse'y | 0.6mm (0.02 in.) | |
| B2147 | Guide pipe asse'y | 0.8mm (0.03 in.) | |
| B2148 | Guide pipe asse'y | 1.0mm (0.04 in.) | 908 |
| B2149 | Guide pipe asse'y | 1.2mm (0.05 in.) | |
| B2156 | Guide pipe asse'y | 1.6mm (0.06 in.) | |
| B2151 | Guide pipe asse'y | 0.6mm (0.02 in.) | 908 |
| B2152 | Guide pipe asse'y | 0.8mm (0.03 in.) | |
| B2153 | Guide pipe asse'y | 1.0mm (0.04 in.) | |
| B2154 | Guide pipe asse'y | 1.2mm (0.05 in.) | 908 |
| B2157 | Guide pipe asse'y | 1.6mm (0.06 in.) | |

| Part No. | Part Name | Diameter of solder | Applicable Models |
|----------|---------------------------|---------------------------|-----------------------------------|
| B1699 | Nozzle | 0.6mm (0.02 in.) | — |
| B1700 | Nozzle | 0.8mm (0.03 in.) | — |
| B1701 | Nozzle | 1.0mm (0.04 in.) | — |
| B1702 | Nozzle | 1.2mm (0.05 in.) | — |
| B1703 | Nozzle | 1.6mm (0.06 in.) | — |
| B1704 | Guide pipe A | 0.6~1.0mm (0.02~0.04 in.) | 900M, 920 921, 922 N452, N453 907 |
| B1705 | Guide pipe B | 1.2mm (0.05 in.) | |
| B2116 | Guide pipe G | 1.6mm (0.06 in.) | 900L, 918, N454, 908 |
| B1706 | Guide pipe C | 0.6~1.0mm (0.02~0.04 in.) | |
| B1707 | Guide pipe D | 1.2mm (0.05 in.) | 902, 904 |
| B2117 | Guide pipe H | 1.6mm (0.06 in.) | |
| B1708 | Guide pipe E | 0.6~1.0mm (0.02~0.04 in.) | 902, 904 |
| B1709 | Guide pipe F | 1.2mm (0.05 in.) | |
| B2118 | Guide pipe I | 1.6mm (0.06 in.) | 926 |
| B1647 | Spring iron holder A | — | |
| B1648 | Spring iron holder B | — | 927, 928, 929, 931, 932 |
| B1649 | Foot switch | — | — |
| B1650 | Clip A / 1 pc. | — | 900M, 900L, DASH |
| B1956 | Clip B / 1 pc. | — | 902, 904 |
| B2158 | Clip C / 1 pc. | — | 907, 908 |
| 631-07 | Hakko 631 Iron holder | — | DASH, MACH |
| C1141 | Hakko 936/937 Iron holder | — | 900S |
| C1142 | Hakko 936/937 Iron holder | — | 907, 908, 913, 914 |
| B1863 | Mini plug | — | — |
| C1234 | Feeder pen | 0.6~1.0mm (0.02~0.04 in.) | — |
| C1235 | Feeder pen | 1.2~1.6mm (0.05~0.06 in.) | — |
| B2124 | Feeder switch | — | — |

■ The 900M and 900L are soldering irons used with the Hakko 926, Hakko 927, and Hakko 928.

■ The 902 is a soldering iron used with the Hakko 931 and the Hakko 932.

■ The 904 is a soldering iron used with the Hakko 929.

■ The 907 and 908 are solder irons used with the Hakko 936 and the Hakko 937.

■ 918, 920, 921, and 922 are product numbers from the Hakko Mach I series. Parts that support the entire series are indicated by MACH.

■ N452, N453, and N454 are product numbers from the Hakko Dash series. Parts that support the entire series are indicated by Dash.

■ The following parts may need to be changed in order to accommodate a change in the solder diameter or type of soldering iron used.

- Driving pulley assembly
- Following pulley assembly
- Supply nozzle
- Guide pipe assembly
- Tube unit

Change these parts as necessary.

PARTS LIST

| No. | Part No. | Part Name | Description |
|-----|----------|--|-------------------------|
| 1 | B2132 | Cover for feeding unit | |
| 2 | B2104 | Driving pulley asse'y / for ø0.6mm (0.02 in.) solder | |
| | B2105 | Driving pulley asse'y / for ø0.8mm (0.03 in.) solder | |
| | B2106 | Driving pulley asse'y / for ø1.0mm (0.04 in.) solder | |
| | B2107 | Driving pulley asse'y / for ø1.2mm (0.05 in.) solder | |
| | B2108 | Driving pulley asse'y / for ø1.6mm (0.06 in.) solder | |
| 3 | B2109 | Following pulley asse'y / for ø0.6mm (0.02 in.) solder | With cutting blade |
| | B2110 | Following pulley asse'y / for ø0.8mm (0.03 in.) solder | With cutting blade |
| | B2111 | Following pulley asse'y / for ø1.0mm (0.04 in.) solder | With cutting blade |
| | B2112 | Following pulley asse'y / for ø1.2mm (0.05 in.) solder | With cutting blade |
| | B2113 | Following pulley asse'y / for ø1.6mm (0.06 in.) solder | With cutting blade |
| 4 | A1323 | Cutting blade | |
| 5 | B1890 | Nozzle support | |
| 6 | B2133 | Supply nozzle / for ø0.6mm (0.02 in.) solder | |
| | B2134 | Supply nozzle / for ø0.8mm (0.03 in.) solder | |
| | B2135 | Supply nozzle / for ø1.0mm (0.04 in.) solder | |
| | B2136 | Supply nozzle / for ø1.2mm (0.05 in.) solder | |
| | B2137 | Supply nozzle / for ø1.6mm (0.06 in.) solder | |
| 7 | B2129 | Motor fixing plate | |
| 8 | B2142 | Motor | With wire, connector |
| 9 | B2130 | Cover | |
| 10 | B1901 | Solder bobbin shaft | |
| 11 | B1902 | Solder bobbin support | |
| 12 | B1899 | P.W.B. | With potentiometer |
| 13 | B1197 | Potentiometer for feed speed control | 5kΩ |
| 14 | B1905 | Potentiometer for feed time control | 1kΩ |
| 15 | B1041 | Fuse holder | Without fuse, 100, 110V |
| | B1134 | Fuse holder | Without fuse, 220, 230V |
| 16 | B1907 | Fuse | 125V-1A/100, 110V |
| | B1139 | Fuse | 250V-1A/220, 230V |
| 17 | B1903 | Mini jack | |
| 18 | B1906 | Switch | |
| 19 | B1487 | Power switch | 100 - 120V |
| | B2604 | Power switch | 220 - 240V |
| 20 | B2131 | Chassis | |
| 21 | B1208 | Cord stopper | |
| 22 | B1895 | Chassis support plate | Set of 4 |
| 23 | B1037 | Rubber stopper | Set of 4 |
| 24 | B1114 | Locking spacer | CE |
| 25 | B1169 | Power cord / 3 core & European plug | 100V |
| 26 | B1900 | Transformer | 230V |
| | B1912 | Transformer | |



TROUBLESHOOTING

When the Hakko 374 fails to feed the solder properly, check the following items.

- Do the parts match the solder diameter?
- Is the tension adjusted properly?
- Is the tube bent or twisted?
- Have solder and flux accumulated on the driving pulley, the following pulley, and the cutting blade?
- Is the tension adjustment screw tight?
- Is the arm mounting screw tight?
- Is the guide pipe clogged with flux?
- Is the tip of the nozzle clogged with flux?
- Is the mini plug connected properly?
- Is the fuse blown?
- Is the power supply of the correct voltage and frequency?
- Are the feed speed and the feed time appropriate?
- Is the tip temperature appropriate?



HAKKO CORPORATION

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