

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.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

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.)

*This product is protected against electrostatic discharge.
*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.

CAUTION

1.6 mm dia. lead free solder is not available for use.

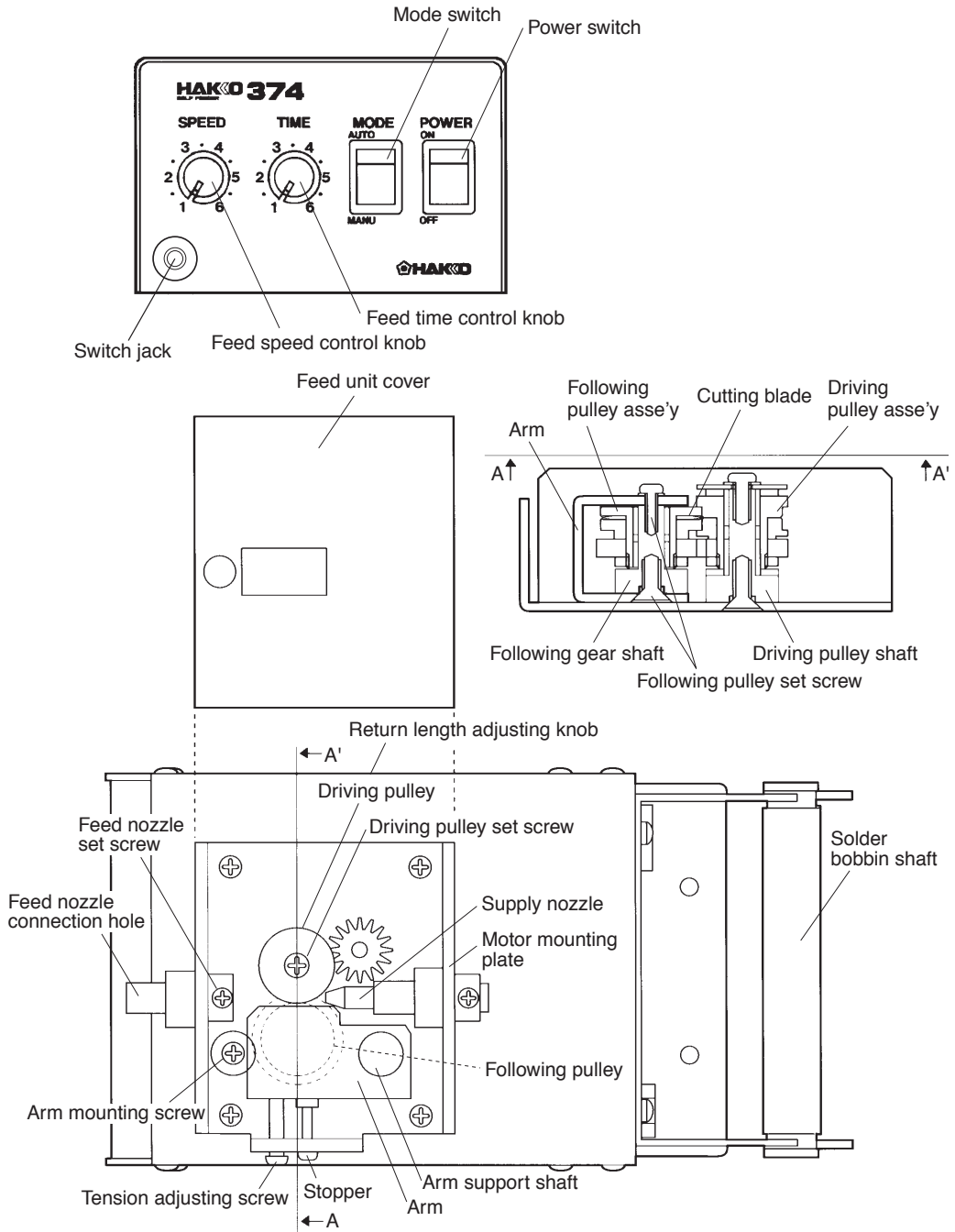
●Soldering irons

Soldering iron	Comments
FM-2027(used with FM-203, 204, 205)	
FM-2028(used with FX-950, 951, 952)	
FX-8301(used with FX-838)	
FM-2030(used with FM-206)	
FX-8801(used with FX-888D, 889)	
FX-8805(used with FX-888D, 889)	
FX-8002(used with FX-801)	
FX-1001(used with FX-100)	
FN-1101(used with FN-1010)	
FX-8004(used with FX-805)	
FX-9701(used with FX-971, 972)	
FX-9707(used with FX-972)	

*This product is protected against electrostatic discharge.
*Specifications and design subject to change without notice.

PART NAMES

● Feed controller unit



ASSEMBLY (IRON SIDE)

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

⚠ CAUTION

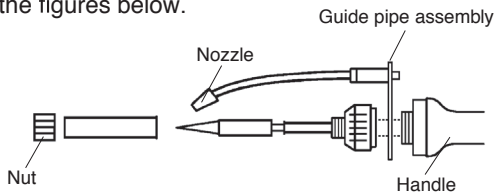
- To avoid injury, do not attempt to assemble while the soldering iron is hot.
- Do not damage the guide pipe by bending or twisting it.
- Do not allow the tube to be bent at a severe angle. Otherwise, it will become clogged with solder.

Top-feed type

(1) Attaching the guide pipe assembly

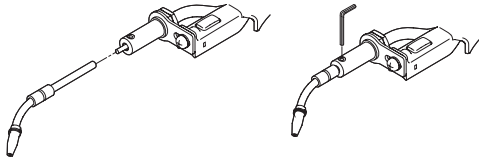
• FX-8801, FX-8805

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.



• Others

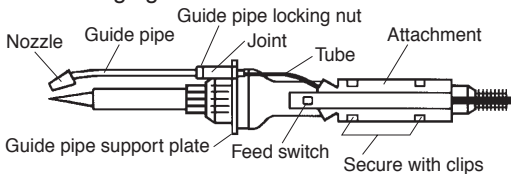
Please insert the guide pipe assembly directly in the tube unit, and tighten lightly with a hex wrench (M3).



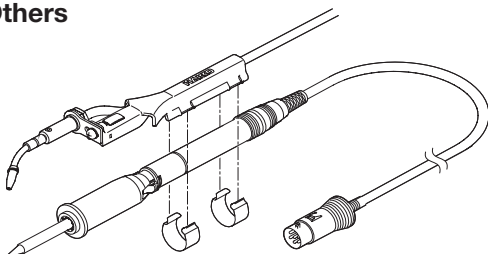
(2) Attaching the tube unit

• FX-8801, FX-8805

Attach the attachment and guide pipe referring to the following figure.

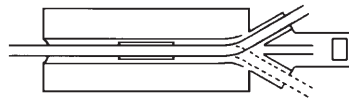


• Others



- 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
 - 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.

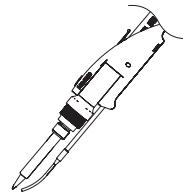
Rear view of attachment



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.

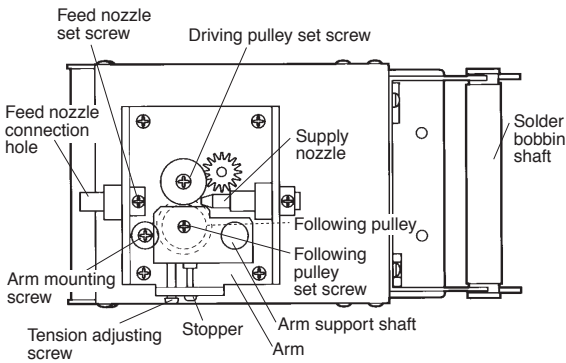
- Secure the attachment with the handle and the adhesive tape on the rear of the attachment.

Bottom-feed type



Refer to the instruction manual included with the bottom-feed type tube unit for attachment methods. (Refer to "OPTIONS & REPLACEMENT PARTS" for the part number)

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.

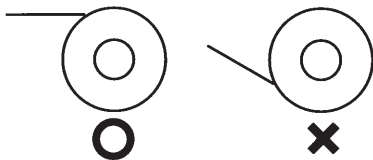
(2) Connect the mini plug

Insert the mini plug into the jack on the front of the station.

(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.

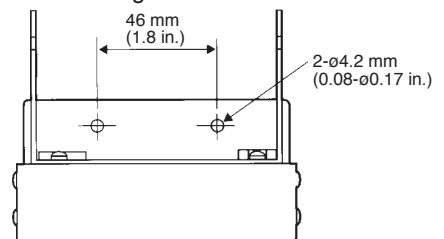
⚠ CAUTION

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

Top-feed type

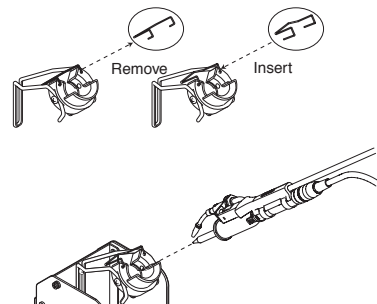
- FX-1001
- FX-8801, FX-8805

These can be used as they are.

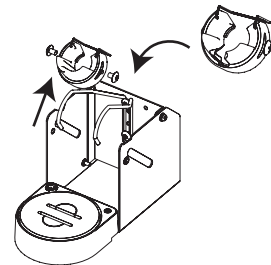


• Others

Exchange with the optional retaining clip. (Refer to "OPTIONS & REPLACEMENT PARTS/Replacement parts & options (Top-feed type)" for the part number)



Bottom-feed type



Refer to the instruction manual included with the bottom-feed type iron receptacle for attachment methods. (Refer to "OPTIONS & REPLACEMENT PARTS" for the part number)

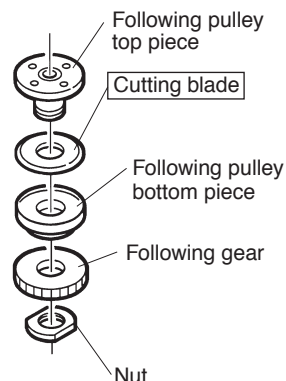
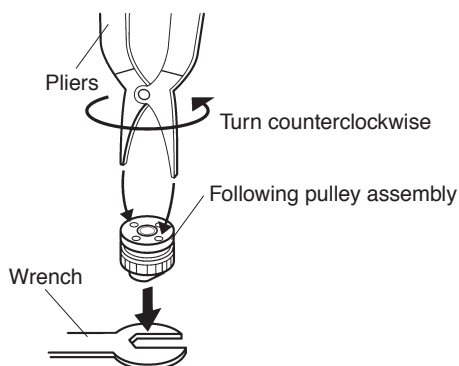
MAINTENANCE

⚠ 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

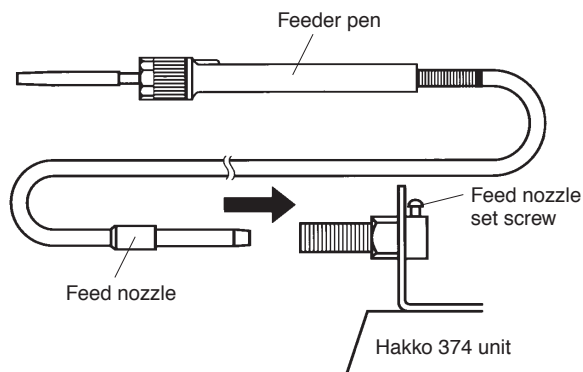
Thread solder can be fed automatically by connecting the optional feeder pen to the HAKKO 374 feed controller unit. The feeder pen can be used for the following purposes.

- 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 A, for solder diameters from 0.6 to 1.0 mm (0.02 to 0.04 in.)
C1235	Feeder Pen B, 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

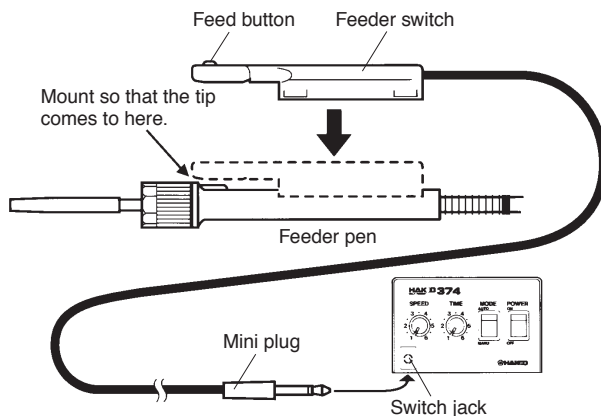


1. Make sure the feeder pen matches the solder diameter to be used.
2. Insert the feed nozzle into the feed nozzle connection hole on the feed controller unit.
3. Tighten the feed nozzle set screw.

(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

Setup options (Top-feed type)

Applicable soldering iron	Diameter of solder (Φ)	Guide pipe asse'y	Tube unit
FM-2030 FN-1101 FX-9701	0.6 mm	B3726	B3477
	0.8 mm	B3727	
	1.0 mm	B3728	
	1.2 mm	B3729	
FM-2027 FM-2028 FX-1001 <small>* The B5183 spacer is required for FX-1001.</small>	0.6 mm	B3481	B3477
	0.8 mm	B3482	
	1.0 mm	B3483	
	1.2 mm	B3484	
FX-8002 FX-8004 FX-9707	0.6 mm	B5072	B3477
	0.8 mm	B5073	
	1.0 mm	B5074	
	1.2 mm	B5075	
FX-8301	0.6 mm	B3566	B3563
	0.8 mm	B3567	
	1.0 mm	B3568	
	1.2 mm	B3569	
	1.6 mm	B3571	
FX-8801	0.6 mm	B2146	B2143
	0.8 mm	B2147	
	1.0 mm	B2148	
	1.2 mm	B2149	
	1.6 mm	B2156	
FX-8805	0.6 mm	B2151	B2143
	0.8 mm	B2152	
	1.0 mm	B2153	
	1.2 mm	B2154	
	1.6 mm	B2157	

OPTIONS AND REPLACEMENT PARTS

Setup options (Bottom-feed type) *The bottom-feed types are not compatible with Φ 1.6.

Applicable soldering iron	Diameter of solder (Φ)	Guide pipe asse'y	Tube unit	Iron receptacle
FM-2030 FN-1101 FX-8002 FX-8301	0.6 mm	B5272	C5058	B5265
	0.8 mm	B5273		
	1.0 mm	B5274	C5059	
	1.2 mm	B5275		
FM-2027 FM-2028	0.6 mm	B5268	C5056	
	0.8 mm	B5269		
	1.0 mm	B5270	C5057	
	1.2 mm	B5271		
FX-1001	0.6 mm	B5268	C5056	
	0.8 mm	B5269		
	1.0 mm	B5270	C5057	
	1.2 mm	B5271		
FX-8801 FX-8805	0.6 mm	B5272	C5058	B5267
	0.8 mm	B5273		
	1.0 mm	B5274	C5059	
	1.2 mm	B5275		
FX-8004 FX-9701 FX-9707	0.6 mm	B5272	C5058	B5370
	0.8 mm	B5273		
	1.0 mm	B5274	C5059	
	1.2 mm	B5275		

Replacement parts and options (Top-feed type)

Part No.	Part Name	Diameter of solder	Note
B1699	Nozzle	0.6 mm	-
B1700	Nozzle	0.8 mm	-
B1701	Nozzle	1.0 mm	-
B1702	Nozzle	1.2 mm	-
B1703	Nozzle	1.6 mm	-
B1704	Guide pipe A	0.6 ~ 1.0 mm	FX-8801
B1705	Guide pipe B	1.2 mm	
B2116	Guide pipe G	1.6 mm	
B1706	Guide pipe C	0.6 ~ 1.0 mm	FX-8805
B1707	Guide pipe D	1.2 mm	
B2117	Guide pipe H	1.6 mm	
B1708	Guide pipe E	0.6 ~ 1.0 mm	FX-8301
B1709	Guide pipe F	1.2 mm	
B2118	Guide pipe I	1.6 mm	
B3485	Guide pipe J	0.6 ~ 1.0 mm	FM-2027, FM-2028, FX-1001
B3486	Guide pipe K	1.2 mm	
B2158	Clip C/1pc.	-	FX-8301, FX-8801, FX-8805
B3487	Clip D	-	FM-2027, FM-2028, FM-2030, FN-1101, FX-1001, FX-8002, FX-8004, FX-9701, FX-9707
B3489	Retaining clip	-	FH-101, FH-200, FH-201, FH-210, FH-215, FH-220

Replacement parts and options (Bottom-feed type)

Part No.	Part Name	Diameter of solder	Note
B2791	Retaining clip	-	FH-101, FH-200, FH-201, FH-210, FH-800, FH-801, FH-215, FH-220
B5283	Hexagon wrench/Opposite side 1.5 mm	-	-

Replacement parts

Part No.	Part Name	Diameter of solder	Note
B1649	Foot switch	-	-
B1863	Mini plug	-	-
C1234	Feeder pen A	0.6 ~ 1.0 mm	-
C1235	Feeder pen B	1.2 ~ 1.6 mm	-
B2124	Feeder switch	-	-
B5285	Beaded cable tie/5 bands	-	-

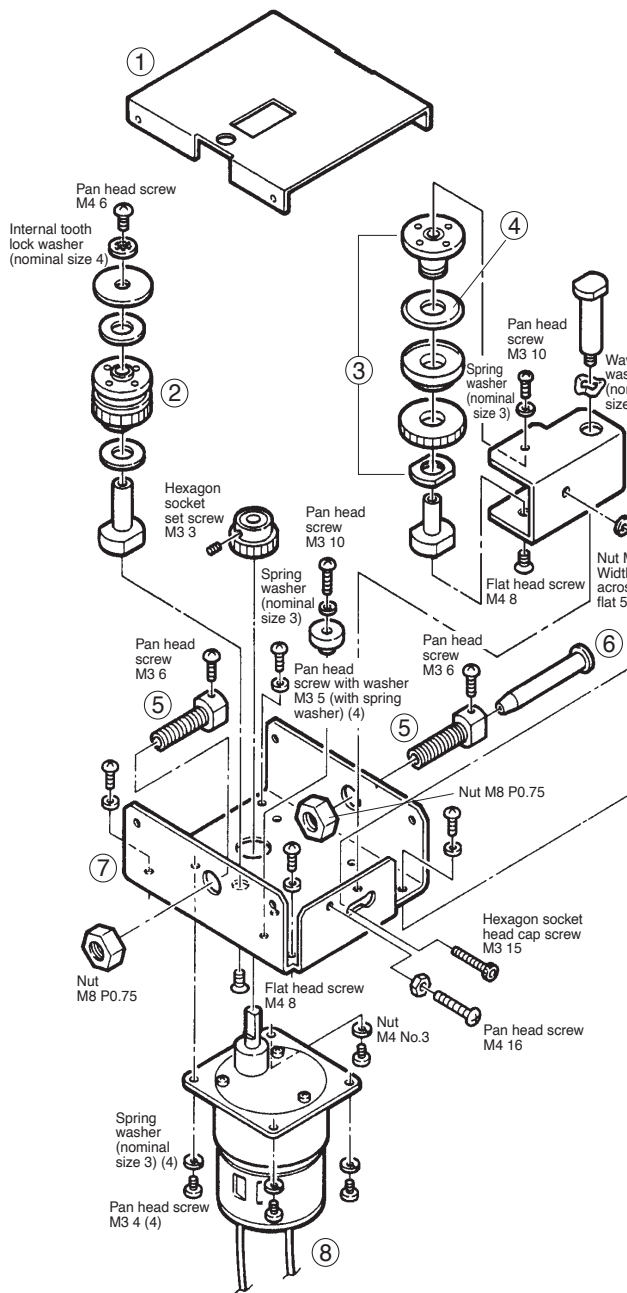
■ The following parts may need to be changed in order to accommodate a change in the solder diameter or type of soldering iron used.

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

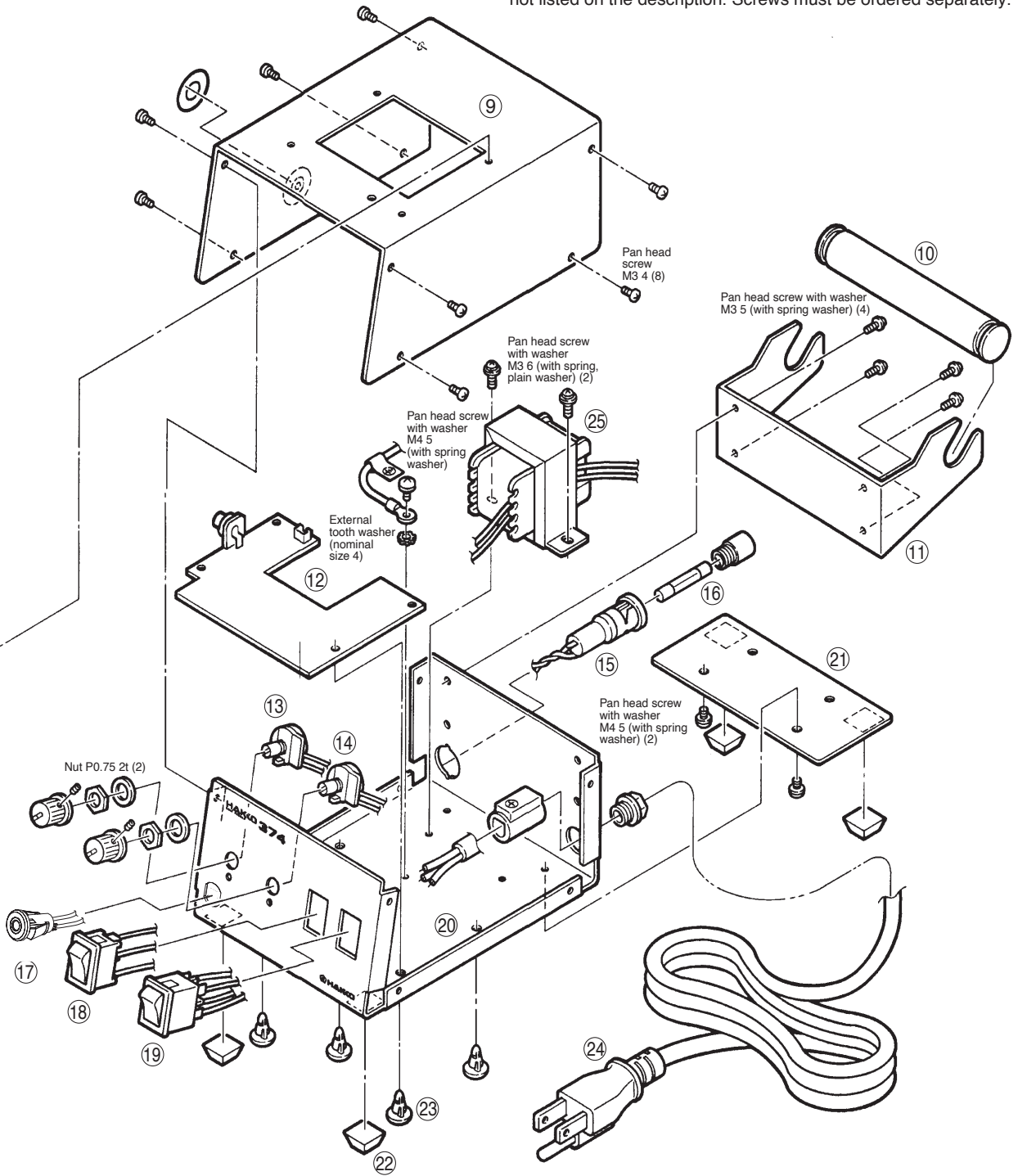
Change these parts as necessary.

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	B5131	Mini jack	
18	B1906	Switch	
19	B1487	Power switch	100 - 120V
	B2604	Power switch	220 - 240V
20	B2131	Chassis	
21	B1895	Chassis support plate	
22	B1037	Rubber stopper	Set of 4
23	B1114	Locking spacer	Set of 4
24	B1169	Power cord	3 core & European plug
25	B1900	Transformer	100V
	B1912	Transformer	240V



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



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?

CAUTION

■ Handling precautions for ESD Safe products

This product contains electrostatic countermeasures, so please use the following precautions:

1. Not all plastic parts are insulators, they may be conductive. Be careful not to expose live electrical parts or damage insulating materials when performing repairs or replacing parts.
2. Be sure the product is grounded before use.

- 各言語（日本語、英語、中国語、フランス語、ドイツ語、韓国語）の取扱説明書は以下の URL、HAKKO Document Portal からダウンロードしてご覧いただけます。（商品によっては設定の無い言語がありますが、ご了承ください。）
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（有一部分的产品沒有設定外語對應、請見諒）
- Instruction manual in the language of Japanese, English, Chinese, French, German, and Korean can be downloaded from the HAKKO Document Portal.
(Please note that some languages may not be available depending on the product.)

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