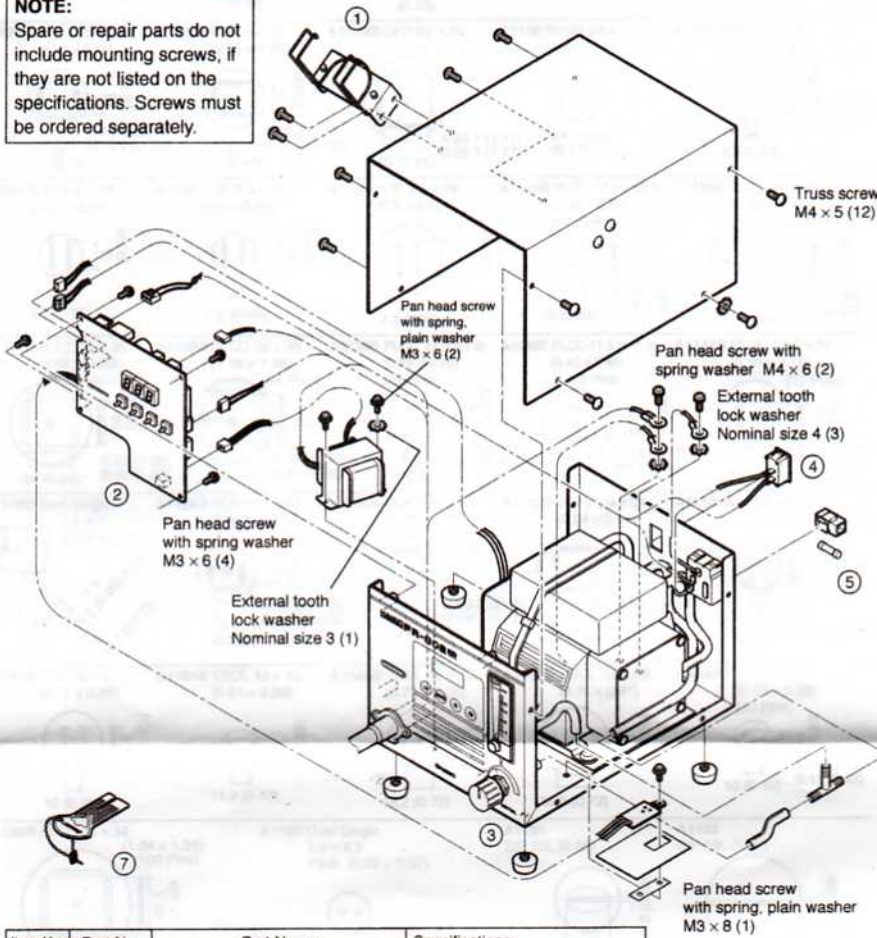


Maintenance & Checking

1. PARTS LIST / STATION

NOTE:

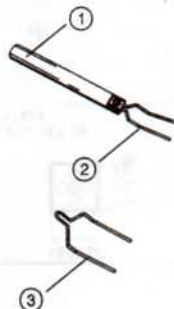
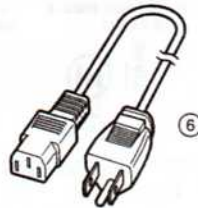
Spare or repair parts do not include mounting screws, if they are not listed on the specifications. Screws must be ordered separately.



| Item No. | Part No. | Part Name | Specifications |
|----------|----------|--|----------------------|
| ① | B3006 | Handpiece holder | |
| ② | B3012 | P.W.B./for temperature control | 100~120V, with triac |
| | B3013 | P.W.B./for temperature control | 220~240V, with triac |
| ③ | B1028 | Knob | With screw |
| ④ | B1084 | Power switch | |
| ⑤ | B2468 | Fuse/125V-5A | 100~120V |
| | B1258 | Fuse/250V-3.15A (S) | 220~240V |
| ⑥ | B2419 | Power cord, 3 wired cord & American plug | |
| | B2421 | Power cord, 3 wired cord but no plug | India |
| | B2422 | Power cord, 3 wired cord & BS plug | 220V KTL. |
| | B2424 | Power cord, 3 wired cord & European plug | 230V CE |
| | B2425 | Power cord, 3 wired cord & BS plug | 230V CE U.K. |
| | B2426 | Power cord, 3 wired cord & Australian plug | |
| ⑦ | B2436 | Power cord, 3 wired cord & Chinese plug | China |
| | B2972 | Control card | |

● **Optional Parts**

| Item No. | Part No. | Part Name | Specifications |
|----------|----------|---------------------|-------------------------------------|
| ① | B1438 | FP pick-up | With 1pc. of pick-up wire (S) & (L) |
| ② | B1439 | FP pick-up wire (S) | |
| ③ | B1440 | FP pick-up wire (L) | |

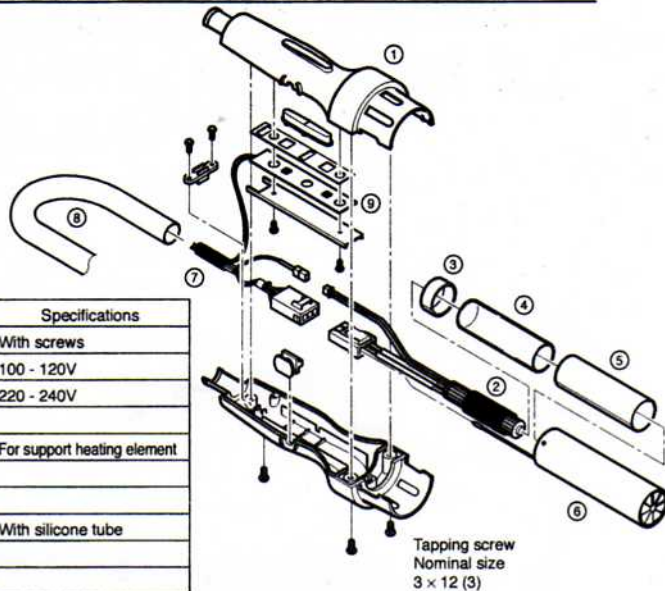


1. PARTS LIST / HANDPIECE

NOTE:

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

| Item No. | Part No. | Part Name | Specifications |
|----------|----------|-------------------|-----------------------------|
| ① | B3010 | Handle | With screws |
| ② | A1523 | Heating element | 100 - 120V |
| | A1524 | Heating element | 220 - 240V |
| ③ | B3009 | Mica pipe B | |
| ④ | B2995 | Quartz glass pipe | For support heating element |
| ⑤ | B3008 | Mica pipe A | |
| ⑥ | B3095 | Pipe | |
| ⑦ | B3014 | Cord assembly | With silicone tube |
| ⑧ | B1188 | Silicone hose | |
| ⑨ | B3011 | P.W.B./for handle | |



2. MAINTENANCE / INSPECTION

Broken Heater or Sensor

⚠ CAUTION

Replacing the heating element is very dangerous. Be sure to turn the power switch OFF and be careful of the following procedure when replacing the heating element.

A Open the handpiece.

1. Remove the three screws holding the handpiece together. (Figure 1)
2. Move the tube downward.
3. Remove the pipe from the protruding portion of the handle.

⚠ CAUTION

Quartz glass and heat insulation are inside the pipe. Be careful not to drop or lose these items.

4. Disconnect the heater sensor connector and remove the heater.

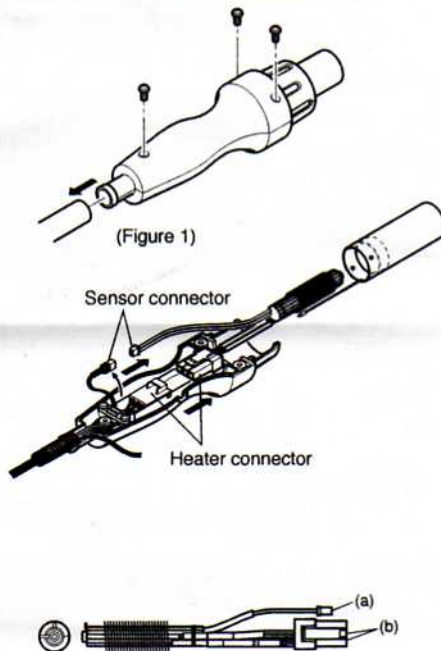
B Measure the resistance value.

1. Measure the resistance value (a) of the sensor. The correct value is 0Ω.
2. Measure the resistance value (b) of the heater. The correct values are approximately 33Ω (±10%) (100-120V), 85Ω (±10%) (220-240V) at room temperature.

If the resistance value is incorrect, replace the part. (Refer to the instructions included with the replacement part.)

⚠ CAUTION

Handle the heating element with care. Never rub the heating element wire!
Insert the handle's projection into the hole in the pipe.



3. TROUBLE SHOOTING GUIDE

⚠ WARNING

- Before checking the inside of the HAKKO FR-802 or replacing parts, be sure to disconnect the power plug. Failure to do so may result in electric shock.

- The unit does not operate when the power switch is turned on.

CHECK : Is the fuse blown?
ACTION : Investigate why the fuse blew and then replace the fuse. If the fuse blows again, send the unit in for repair.

- [S-E] flashes, indicating a sensor error.

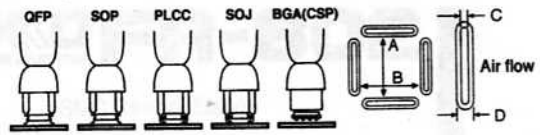
CHECK : Is the sensor broken?
ACTION : Measure the resistance value of the sensor. The correct value is 0Ω. If the resistance value is incorrect, replace the part.

- [H-E] flashes, indicating a heater error.

CHECK : Is the heater broken?
ACTION : Measure the resistance value of the heater. The correct value are approximately 33Ω (±10%) (100-120V), 85Ω (±10%) (220-240V) at room temperature. If the resistance value is incorrect, replace the part.

4. OPTIONAL NOZZLES

CAUTION
The size in Name/Specification indicates the size of IC package.



Unit: mm

| | | | | | | | | | | | | |
|--|--|---|--|---|----------------------------|----------------------------|-----|-------|-------|--|---|--|
| A1124B Single e2.5 (0.09) e2.5 (I.D) (0.09) | A1125B QFP 10 x 10 (0.39 x 0.39) A:10.2 (0.4) B:10.2 (0.4) | A1126B QFP 14 x 14 (0.55 x 0.55) A:15.2 (0.6) B:15.2 (0.6) | <table border="1"> <tr> <td>C0.8 D1.8</td> <td>C1.0 (0.04) D2.0 (0.08)</td> <td>C0.8 (0.03) D2.0 (0.08)</td> </tr> <tr> <td>No.</td> <td>A1191</td> <td>A1192</td> </tr> <tr> <td></td> <td>A1125B-A1129B A1131-A1141B A1180B-A1189 A1203B-A1265BB</td> <td></td> </tr> </table> | C0.8 D1.8 | C1.0 (0.04) D2.0 (0.08) | C0.8 (0.03) D2.0 (0.08) | No. | A1191 | A1192 | | A1125B-A1129B A1131-A1141B A1180B-A1189 A1203B-A1265BB | |
| C0.8 D1.8 | C1.0 (0.04) D2.0 (0.08) | C0.8 (0.03) D2.0 (0.08) | | | | | | | | | | |
| No. | A1191 | A1192 | | | | | | | | | | |
| | A1125B-A1129B A1131-A1141B A1180B-A1189 A1203B-A1265BB | | | | | | | | | | | |
| A1127B QFP 17.5 x 17.5 (0.68 x 0.68) A:19.2 (0.76) B:19.2 (0.76) | A1128B QFP 14 x 20 (0.55 x 0.78) A:15.2 (0.6) B:21.2 (0.83) | A1129B QFP 28 x 28 (1.1 x 1.1) A:29.7 (1.17) B:29.7 (1.17) | A1130 Single e4.4 (0.17) e4.4 (I.D) (0.17) | A1131 SOP 4.4 x 10 (0.17 x 0.39) 4.8 (0.19) | | | | | | | | |
| A1132 SOP 5.6 x 13 (0.22 x 0.51) 5.7 (0.22) | A1133 SOP 7.5 x 15 (0.3 x 0.59) 7.2 (0.28) | A1134 SOP 7.5 x 18 (0.3 x 0.7) 7.2 (0.28) | A1135B PLCC 17.5 x 17.5 (0.68 x 0.68) (44 Pins) A:18.5 (0.73) B:18.5 (0.73) | A1136B PLCC 20 x 20 (0.78 x 0.78) (52 Pins) A:21 (0.83) B:21 (0.83) | | | | | | | | |
| A1137B PLCC 25 x 25 (0.98 x 0.98) (68 Pins) A:26 (1.02) B:26 (1.02) | A1138B PLCC 30 x 30 (1.18 x 1.18) (84 Pins) A:31 (1.22) B:31 (1.22) | A1139B PLCC 12.5 x 7.3 (0.49 x 0.29) (18 Pins) A: 9 (0.35) B:14 (0.55) | A1140B PLCC 11.5 x 11.5 (0.45 x 0.45) (28 Pins) A:13 (0.51) B:13 (0.51) | A1141B PLCC 11.5 x 14 (0.45 x 0.55) (32 Pins) A:15 (0.59) B:13 (0.51) | | | | | | | | |
| A1142B Bent Single 1.5 x 3 (0.06 x 0.12) 45° A:1.5 (0.06) (I.D) B:3 (0.12) (I.D) | A1180B BQFP 17 x 17 (0.67 x 0.67) A:18.2 (0.72) B:18.2 (0.72) | A1181B BQFP 19 x 19 (0.75 x 0.75) A:19.2 (0.76) B:19.2 (0.76) | A1182B BQFP 24 x 24 (0.94 x 0.94) A:24.2 (0.95) B:24.2 (0.95) | A1183 SOJ 15 x 8 (0.59 x 0.31) A:16 (0.63) B:8 (0.31) | | | | | | | | |
| A1184B SOJ 18 x 8 (0.71 x 0.31) 10 (0.39) | A1185B TSOL 13 x 10 (0.51 x 0.39) 11.9 (0.47) | A1186B TSOL 18 x 10 (0.71 x 0.39) 18.2 (0.72) | A1187B TSOL 18.5 x 8 (0.73 x 0.31) 18.5 (0.73) | A1188B PLCC 9 x 9 (0.35 x 0.35) (20 Pins) A:11 (0.43) B:11 (0.43) | | | | | | | | |
| A1189B PLCC 34 x 34 (1.34 x 1.34) (100 Pins) A:36.5 (1.44) B:36.5 (1.44) | A1190 Dual Single 2.5 x 9.5 Pitch (0.09 x 0.37) e2.5 (I.D) (0.09) | A1191 SIP 25L (0.98) 26 (1.02) | A1192 SIP 50L (1.97) 52.5 (2.07) | | | | | | | | | |
| A1203B QFP 35 x 35 (1.38 x 1.38) A:35.2 (1.39) B:35.2 (1.39) | A1214B SOJ 10 x 26 (0.39 x 1.02) 12 (0.47) | A1215B QFP 42.5 x 42.5 (1.67 x 1.67) A:42.5 (1.67) B:42.5 (1.67) | A1257B SOP 11 x 21 (0.43 x 0.83) 11.7 (0.46) | A1258B SOP 7.6 x 12.7 (0.3 x 0.5) 8.2 (0.32) | | | | | | | | |
| A1259B SOP 13 x 28 (0.51 x 1.1) 13.5 (0.53) | A1260B SOP 8.6 x 18 (0.34 x 0.71) 8.7 (0.34) | A1261B QFP 20 x 20 (0.78 x 0.78) A:20.2 (0.8) B:20.2 (0.8) | A1262B QFP 12 x 12 (0.47 x 0.47) A:12.2 (0.48) B:12.2 (0.48) | A1263B QFP 28 x 40 (1.1 x 1.57) A:27.7 (1.09) B:39.7 (1.56) | | | | | | | | |
| A1264B QFP 40 x 40 (1.57 x 1.57) A:40.2 (1.58) B:40.2 (1.58) | A1265B QFP 32 x 32 (1.26 x 1.26) A:32.2 (1.27) B:32.2 (1.27) | A1325 Dual Single e1.5 x 5-10 (0.06 x 0.2-0.39) Adjustable Pitch The pitch between the two nozzles is adjustable. 5 (0.2) 10 (0.39) | A1325 Dual Single e1.5 x 5-10 (0.06 x 0.2-0.39) Adjustable Pitch The pitch between the two nozzles is adjustable. 5 (0.2) 10 (0.39) | A1325 Dual Single e1.5 x 5-10 (0.06 x 0.2-0.39) Adjustable Pitch The pitch between the two nozzles is adjustable. 5 (0.2) 10 (0.39) | | | | | | | | |
| A1470 BGA 8 x 8 9 (0.35) | A1471 BGA 12 x 12 13 (0.51) | A1472 BGA 13 x 13 14 (0.55) | A1473 BGA 15 x 15 16 (0.63) | A1474 BGA 18 x 18 19 (0.75) | | | | | | | | |
| A1475 BGA 27 x 27 28 (1.10) | A1476 BGA 35 x 35 36 (1.42) | A1477 BGA 38 x 38 39 (1.54) | A1478 BGA 40 x 40 41 (1.61) | | | | | | | | | |