

HAKKO 853 **PREHEATER**

PREHEATER

Instruction Manual



Thank you for purchasing the Hakko 853.
This unit preheats electronic printed wiring boards.
Please read this manual before operating the Hakko 853.
Keep this manual readily accessible for reference.

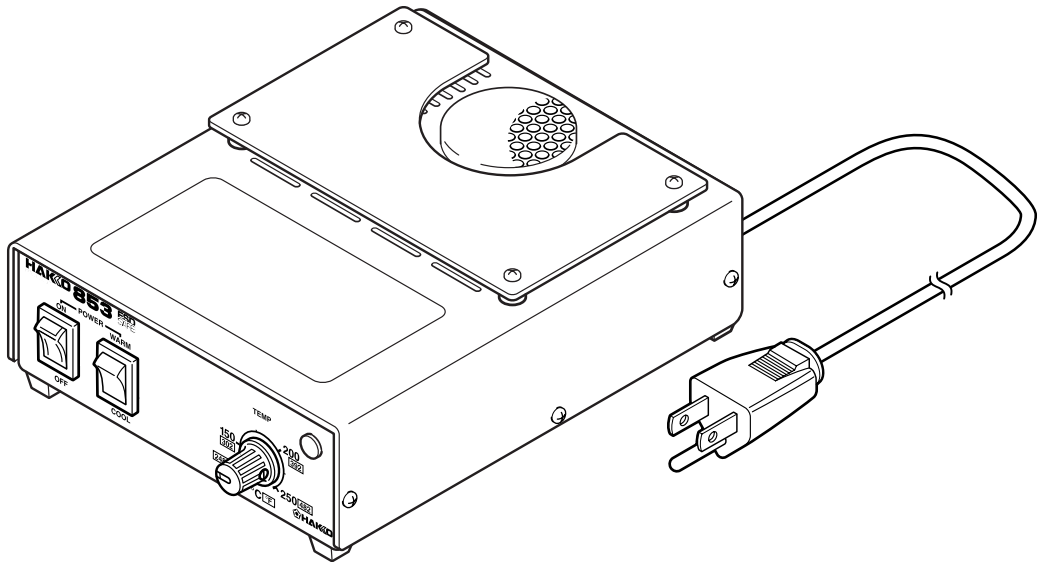


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1. PACKING LIST

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2. SPECIFICATIONS


Name	Hakko 853
Power consumption	100V-350W 110V-400W 120V-500W 220V-460W 230V-500W 240V-540W
Hot air temperature	120~250°C. (248~482°F.)
Air flow	0.18m ³ /min. (6.35ft ³ /min.)
Outer dimension	170 (l) x 140 (w) x 60 (h), mm. (6.7 (l) x 5.5 (w) x 2.4 (h), in.)
Weight (w/cord)	1kg. (2.2lbs.)

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

3. WARNINGS, CAUTIONS

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

 **WARNING:** Failure to comply with a WARNING may result in serious injury or death.

 **CAUTION :** Failure to comply with a CAUTION may result in injury to the operator, or damage to the items involved. Two examples are given below.

CAUTION

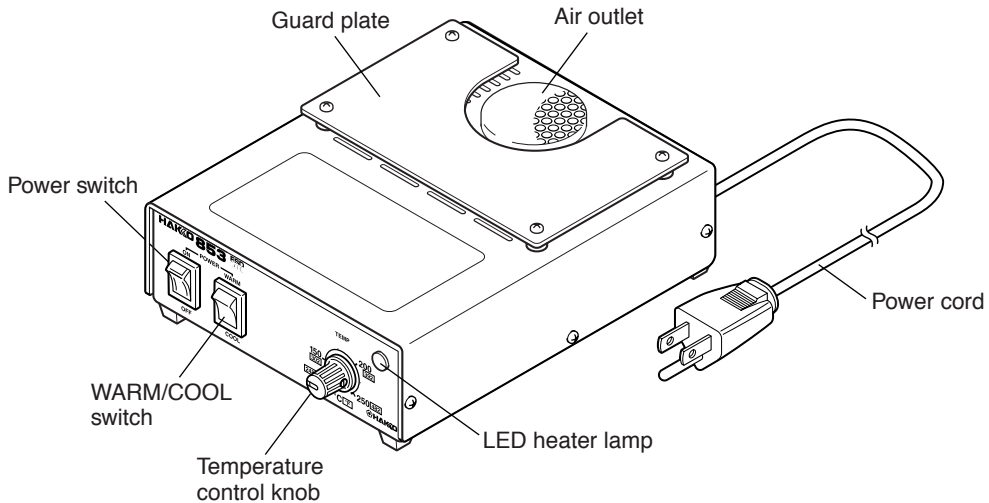
When power is ON, air outlet temperatures will be between 120° and 250°C. (248° and 482°F.). To avoid injury or damage to personnel and items in the work area, observe the following:

- Do not touch the hot air outlet with your bare hands.
- Do not use ignitable gases, ignitable materials, or flammable objects close to the unit.
- Do not blow ignitable substances, ignitable objects, or flux onto the outlet.
- Do not insert anything into the outlet.
- Do not use with the outlet obstructed or with the unit surrounded by other objects.
- Inform other people in the area that the unit is hot and dangerous.
- Turn off the power when no longer using or when leaving the unit unattended.
- Before replacing parts or storing, cool the unit and then turn off the power.

To prevent accidents or damage to the Hakko 853, be sure to observe the following:

- Do not use for any purpose other than preheating.
- Limit continuous use to approximately one hour.
- Be sure to ground the unit.
- Do not modify this unit.
- Use only genuine replacement parts.
- Do not place in water or use with wet hands.
- Hold the plug when connecting and disconnecting the cord.
- Avoid any other actions considered to be dangerous.

4. PART NAMES



5. OPERATING INSTRUCTIONS

PREPARATION

Refer to the figure as shown at the right, and position the Hakko 853 and printed wiring board.

POWER ON

- ① Set the WARM/COOL switch to COOL and turn the power OFF.
- ② Plug in the power cord.

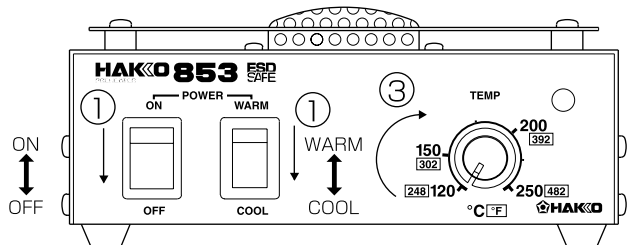
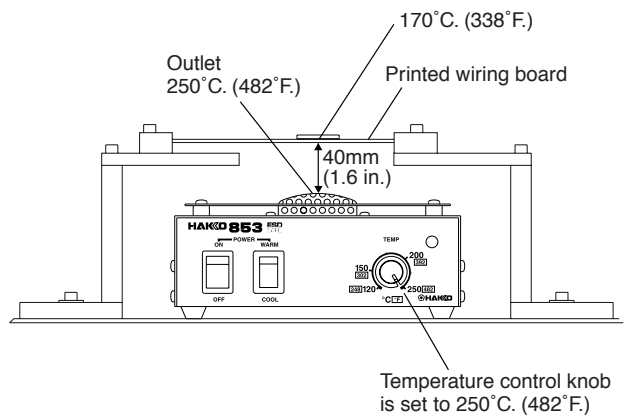
⚠ CAUTION

This unit is protected against electrostatic discharge. Be sure to ground the unit.

- ③ Set the temperature.
- ④ Turn power ON.

⚠ CAUTION

Make sure the outlet is not obstructed before turning the power ON.



6. OPERATING INSTRUCTIONS

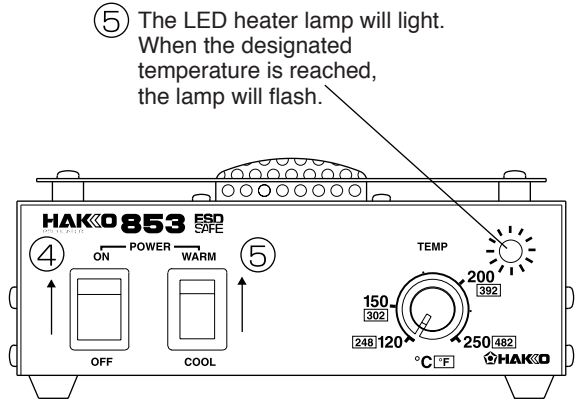
- ⑤ Set the WARM/COOL switch to WARM.

⚠ CAUTION

Hot air is discharged. Preheating begins.

AFTER USE

- ① Set the WARM/COOL switch to COOL to cool the unit.
- ② Make sure the unit is completely cool, then turn the power OFF.



7. TROUBLE SHOOTING

⚠ WARNING

- Unless otherwise directed, carry out these procedures with the power switch OFF and the power cord UNPLUGGED.
- If the power cord is damaged, it must be replaced only by the manufacturer or an authorized Hakko repair facility to preclude damage to either the unit or injury to personnel.
- Be sure the unit has cooled to room temperature before beginning work.

TROUBLE-SHOOTING GUIDE

- Unit does not operate when power turned ON.

CHECK Is the fuse blown?

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

- Air is not discharged.

CHECK Is the fan motor working?

Turn the fan by hand and check if the blades turn smoothly. If there is a problem, replace the fan or send the unit in for repair.

- Air does not become hot when WARM/COOL switch is set to WARM after power ON.

CHECK Is the heating element broken?

Measure the resistance value of the heating element as described on page 5.

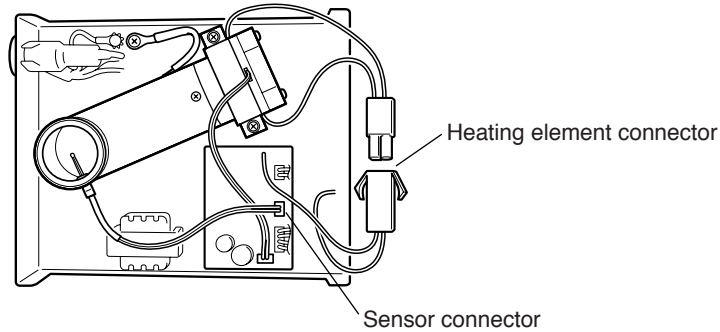
CHECK Is the sensor broken?

Measure the resistance value of the sensor as described on page 5.

CHECK Is the printed wiring board broken?

Check the printed wiring board visually for burned parts. If there are parts with burn damage, replace the wiring board or send the unit in for repair.

8. RESISTANCE MEASUREMENT FOR INVESTIGATING BROKEN HEATING ELEMENT AND SENSOR



⚠ CAUTION

This unit is protected against electrostatic discharge. Be sure to ground the unit.

● Heating element resistance measurement

Remove the heating element connector and measure the resistance. Heating element resistance value:

25-30 Ω (100-120 V)

100-110 Ω (220-240 V)

If the resistance value is incorrect, replace the heating element. (See the instructions included with the replacement heating element regarding how to replace the heating element.)

● Sensor resistance measurement

Remove the sensor connector and measure the resistance.

Sensor resistance value: 200-250 k Ω

If the resistance value is incorrect, replace the sensor. (See the instructions included with the replacement sensor regarding how to replace the sensor.)

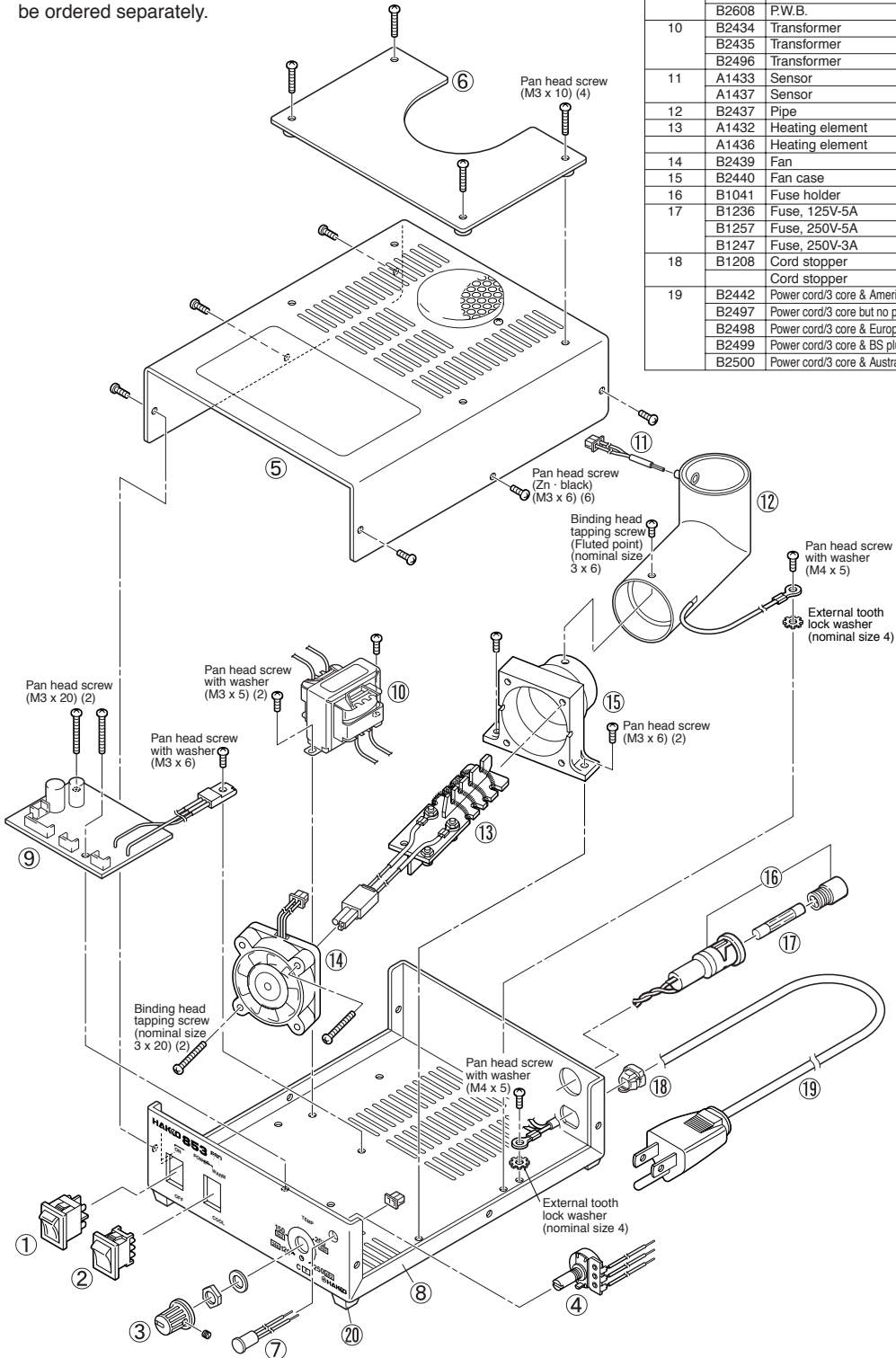
9. MAINTENANCE

Wipe any flux deposits from the outlet and guard plate.

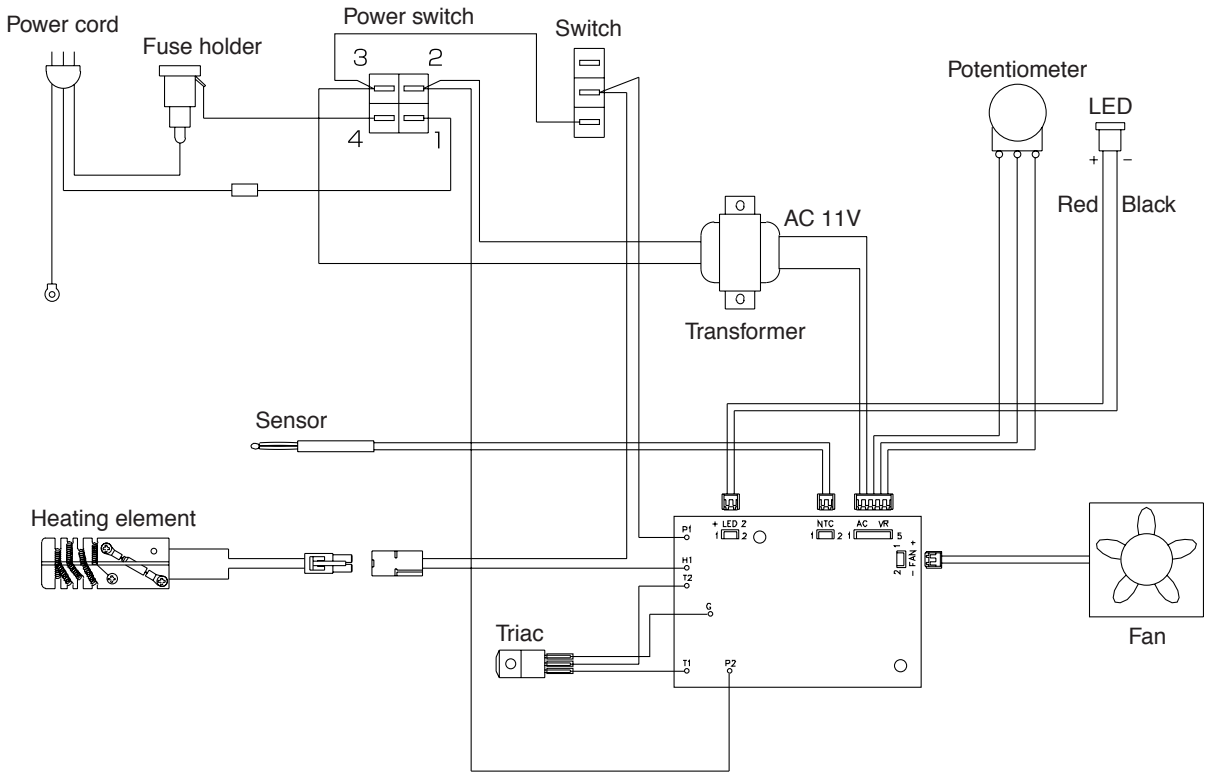
10. PARTS LIST

* 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	B1487	Power switch	100-120V
	B2604	Power switch	220-240V
2	B1906	Switch	
3	B1904	Knob	w/a screw
4	B2427	Potentiometer	
5	B2428	Cover	
6	B2429	Guard plate	
7	B2430	LED lamp	
8	B2431	Chassis	w/Rubber stopper
	B2432	Chassis / UL	w/Rubber stopper
9	B2433	P.W.B.	100-120V, 220-240V
	B2608	P.W.B.	230V, CE
10	B2434	Transformer	100-110V
	B2435	Transformer	120V
	B2496	Transformer	220-240V
11	A1433	Sensor	100-120V
	A1437	Sensor	220-240V
12	B2437	Pipe	
13	A1432	Heating element	100-120V
	A1436	Heating element	220-240V
14	B2439	Fan	
15	B2440	Fan case	
16	B1041	Fuse holder	
17	B1236	Fuse, 125V-5A	100-110V
	B1257	Fuse, 250V-5A	120V
	B1247	Fuse, 250V-3A	220-240V
	B1208	Cord stopper	100-120V, 220-240V
18		Cord stopper	120V
19	B2442	Power cord/3 core & American plug	
	B2497	Power cord/3 core but no plug	
	B2498	Power cord/3 core & European plug	Korea
	B2499	Power cord/3 core & BS plug	India
	B2500	Power cord/3 core & Australian plug	



11. WIRING DIAGRAM



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