



810 Basic (Manual P/N: 801-050253)
810 Plus

Troubleshooting Reference

This reference guide is intended for **trained service personnel ONLY**. Observe all safety procedures in the full Installation, Operation and Maintenance Manual.

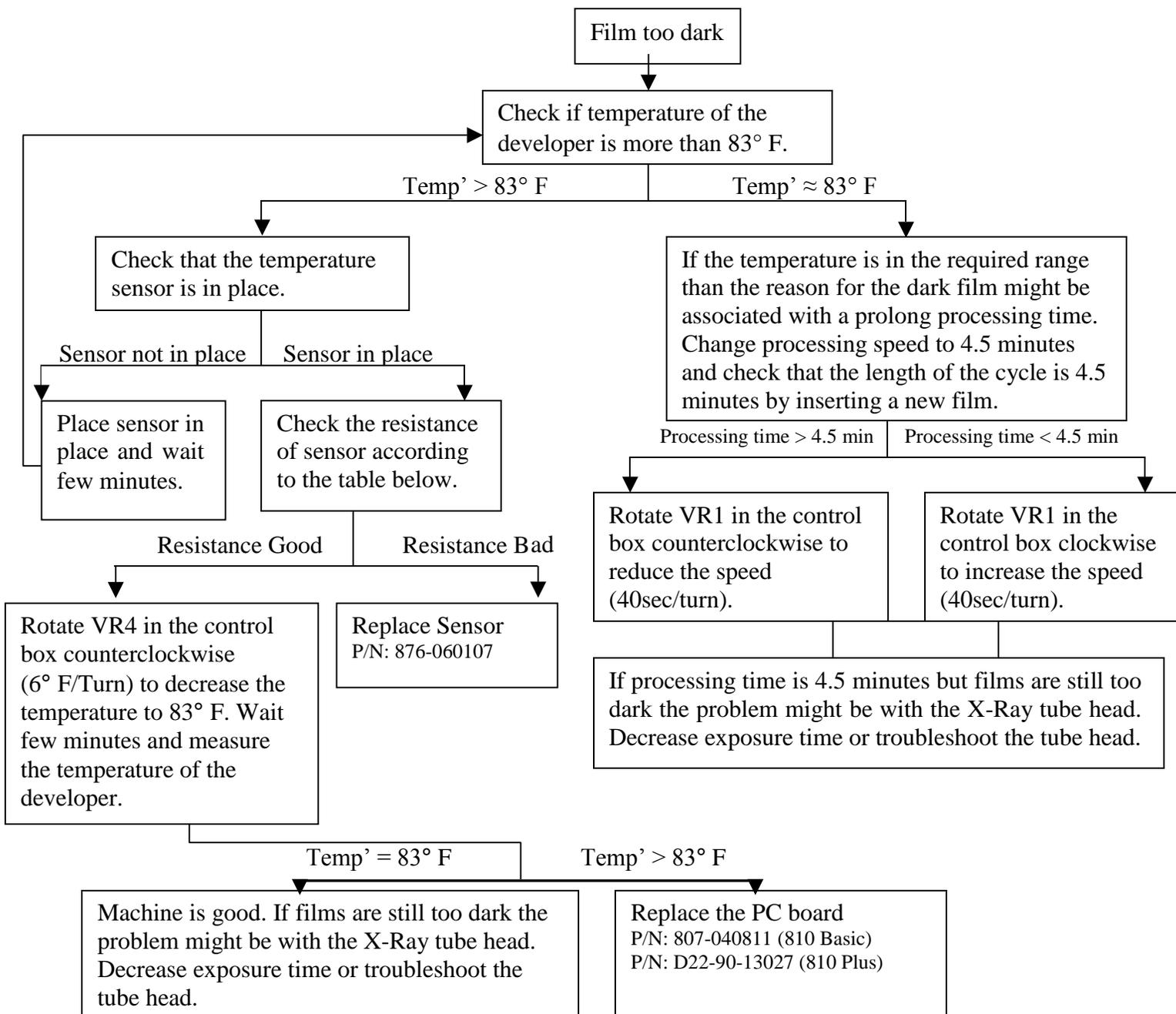
Table of Contents

1. Overheated developer or prolonged processing time_____	1
2. No developer heat_____	2
3. Motor is not working_____	3
4. Fan or heater is not working_____	4
5. Pumps are not working_____	5
6. Machine is running continuously_____	6
7. Display panel problems_____	7-8
8. Solenoid is not working properly_____	9
9. Resistances reference and part numbers for 220V Processors_____	10

<u>Key</u>	
>	Greater Than
<	Lower Than
=	Equal To
≈	About the Same

Note: If you have 220V film processor, please consult page 10 for common resistance values and part numbers.

1) **Dark film: overheated developer or prolonged processing time**



Developer Temp		Resistance
F	C	K Ohms
97	36.1	9.5
95	34.9	9.75
93	33.8	9.95
91	32.6	10.5
89	31.5	11
87	30.4	11.6
85	29.3	12.4
83	28.2	13
81	27.3	12.5
80	26.8	13.8
76	24.4	14.8
74	23.3	15.6
72	22.2	16.25

Note: Dark films can also be associated with light leaks in the darkroom or with wrong filter in safelight.

2) No heat-Low temp light doesn't come off

Film is too light

Background: The temperature sensor records the developer temperature and sends a resistance reading to the control box in inverse proportion: High Temp'-Low Resistance or Low Temp'-High Resistance. Once the resistance is high, i.e.: the temperature of the developer is low, the control box should be sending voltage to the heating pad to heat the developer. The low temp' sensor would be turned off automatically once the developer temperature is between 80°F-83°F. The voltage going to the heating pad when the low temp' light is blinking is line voltage (115V).

Check the voltage going to the heating pad on the heating pad plug

Good voltage | No or low voltage

Check the resistance of the heating pad. It should be between 70-80 Ω

Good resistance | Bad resistance

Check resistance of the temperature sensor. It should be 16 KΩ±10% for developer temp' of 73 °F (room temp')

Good resistance | Bad resistance

Calibrate heating pad by rotating clockwise VR4 on the control box (6 °F/Turn) to obtain 83 °F. Measure the developer temperature before to know how many turns are required.

Replace the heating pad
P/N: 865-062007

Replace temperature sensor
P/N: 876-060107 (810 Basic)
P/N: 876-060107-K (810 Plus)

Replace the Logic Board P/N:
807-040811 (810 Basic)
P/N: D22-90-13027 (810 Plus)
Note: If you came to the conclusion that the PC Board has to be replaced you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries a three-month warranty while the control box has a twelve-month warranty.
P/N: 863-012107 (Control Box, 810 Basic)
P/N: 863-012507 (Control Box, 810 Plus)

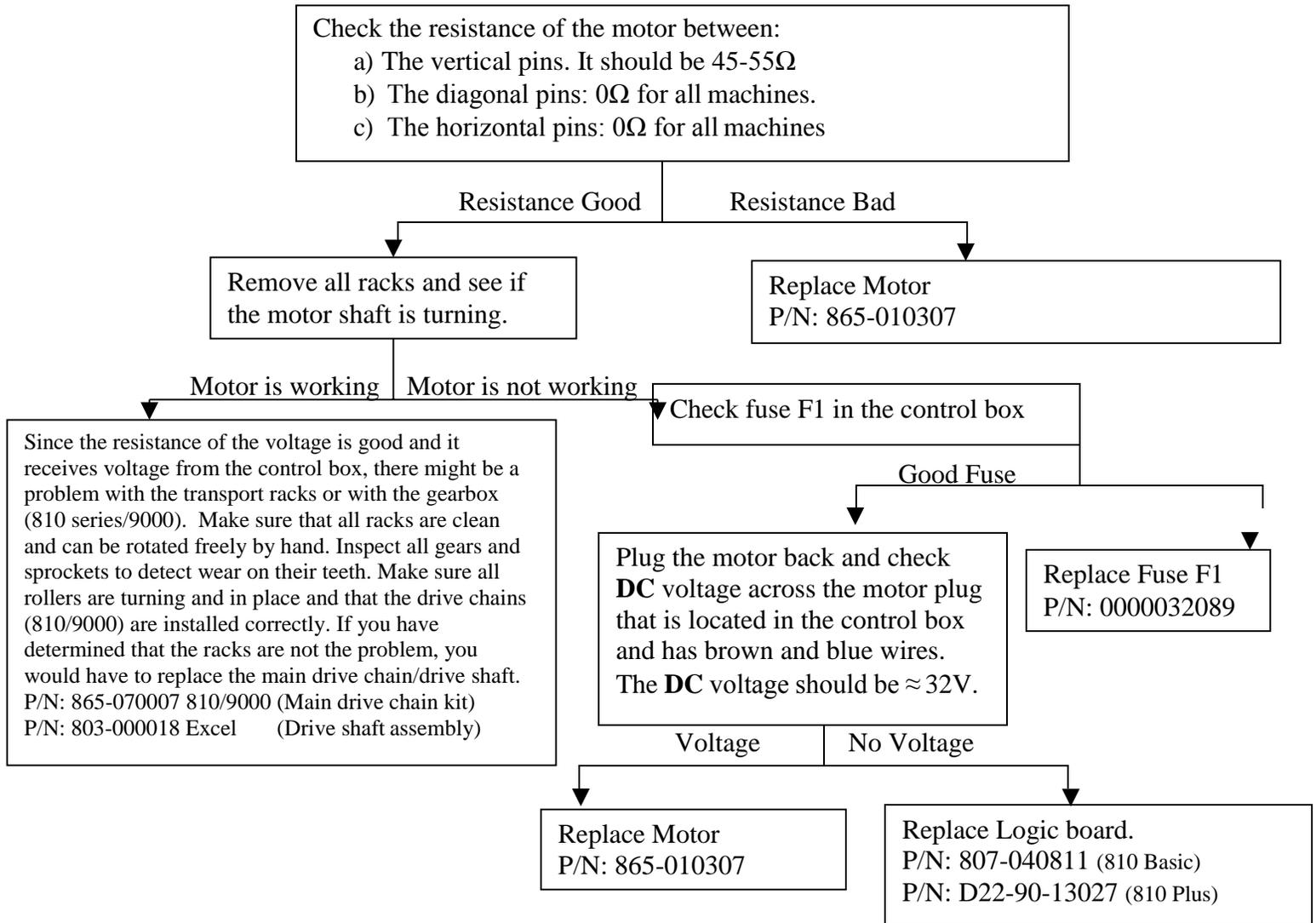
Wait from few up to 45 minutes (depending on the room temperature) and check that the developer temperature is 83 °F.

Temp ≈ 83°F | Temp << 83°F

Machine is good. If the films are still to light the problem might be with the X-Ray tube head: Decrease the exposure time or troubleshoot the tube head. Another option is a weak chemistry due to no or low replenishment rate.

Replace the Logic board P/N:
807-040811 (810 Basic)
P/N: D22-90-13027 (810 Plus)

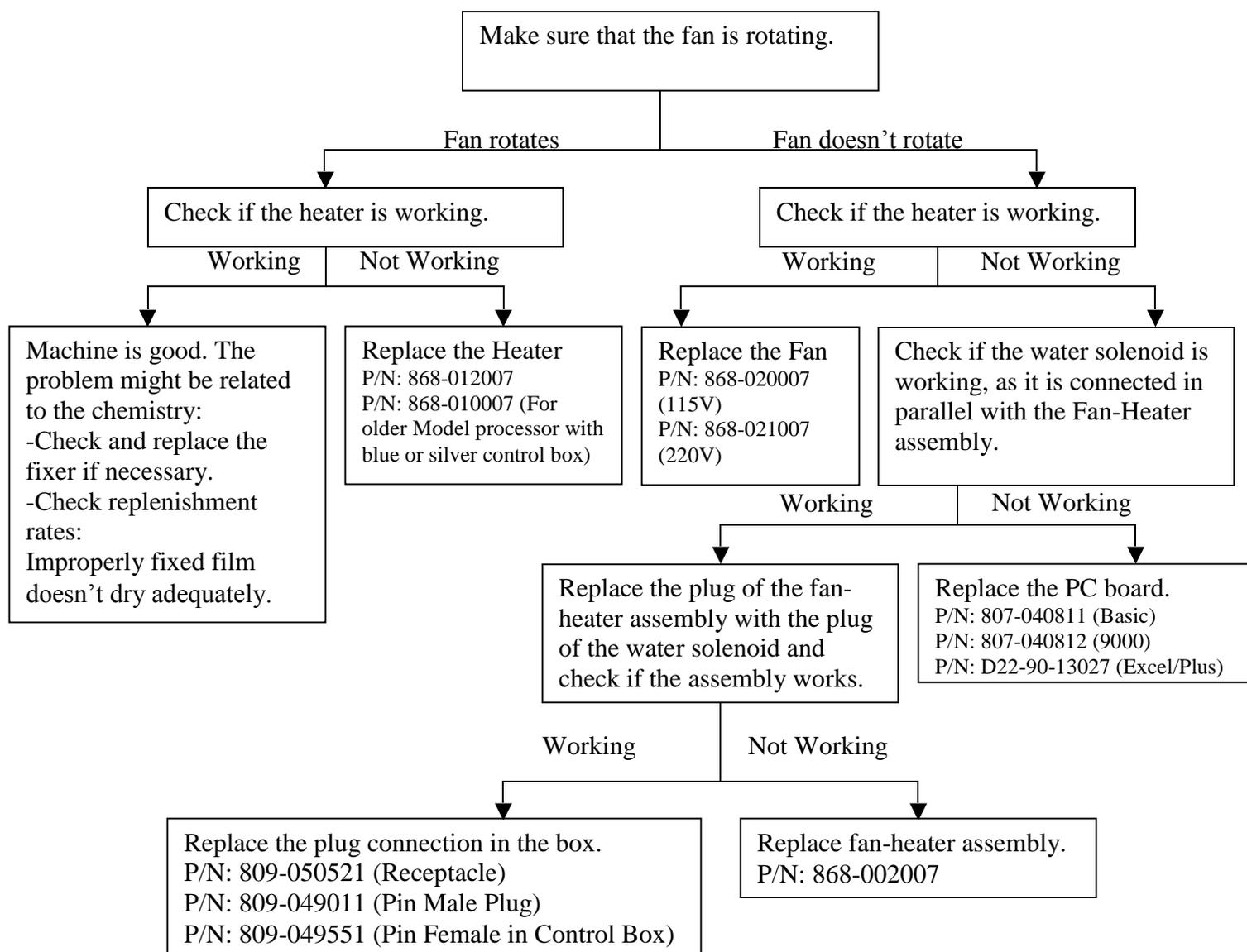
3) Motor not working



Note: If you came to the conclusion that the PC Board has to be replaced you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries three months warranty while the control box has twelve months warranty.

- P/N: 863-012107 (Control Box of 810 Basic).
- P/N: 863-012507 (Control Box of 810 Plus).
- P/N: 863-012007 (Control Box of 9000).
- P/N: 863-012007-1 (Control Box of Excel)

4) Fan or heater doesn't work-Film coming out wet



Note: If you came to the conclusion that the PC Board has to be replaced you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries three months warranty while the control box has twelve months warranty.

P/N: 863-012107 (Control Box of 810 Basic).

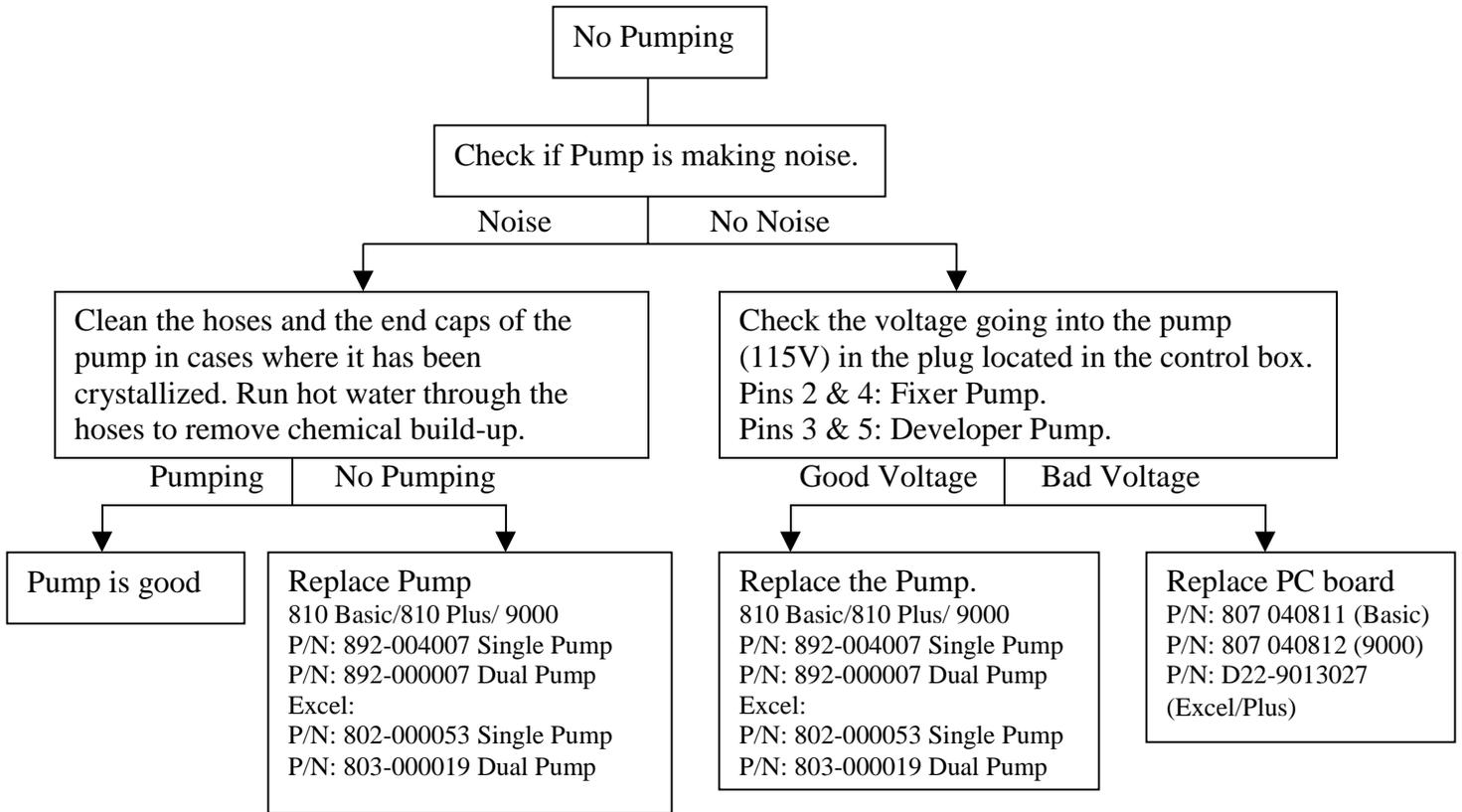
P/N: 863-012507 (Control Box of 810 Plus).

P/N: 863-012007 (Control Box of 9000).

P/N: 863-012007-1 (Control Box of Excel)

5) Pumps do not work

810 Plus



Note: If the pump is working but not a sufficient amount of fluid is being pumped, rotate pot VR7/VR6 in the control box clockwise to increase the pumping rate of the Fixer/Developer, respectively.

Continuous flow of water

-If water is running continuously, open the water solenoid and clean it thoroughly.

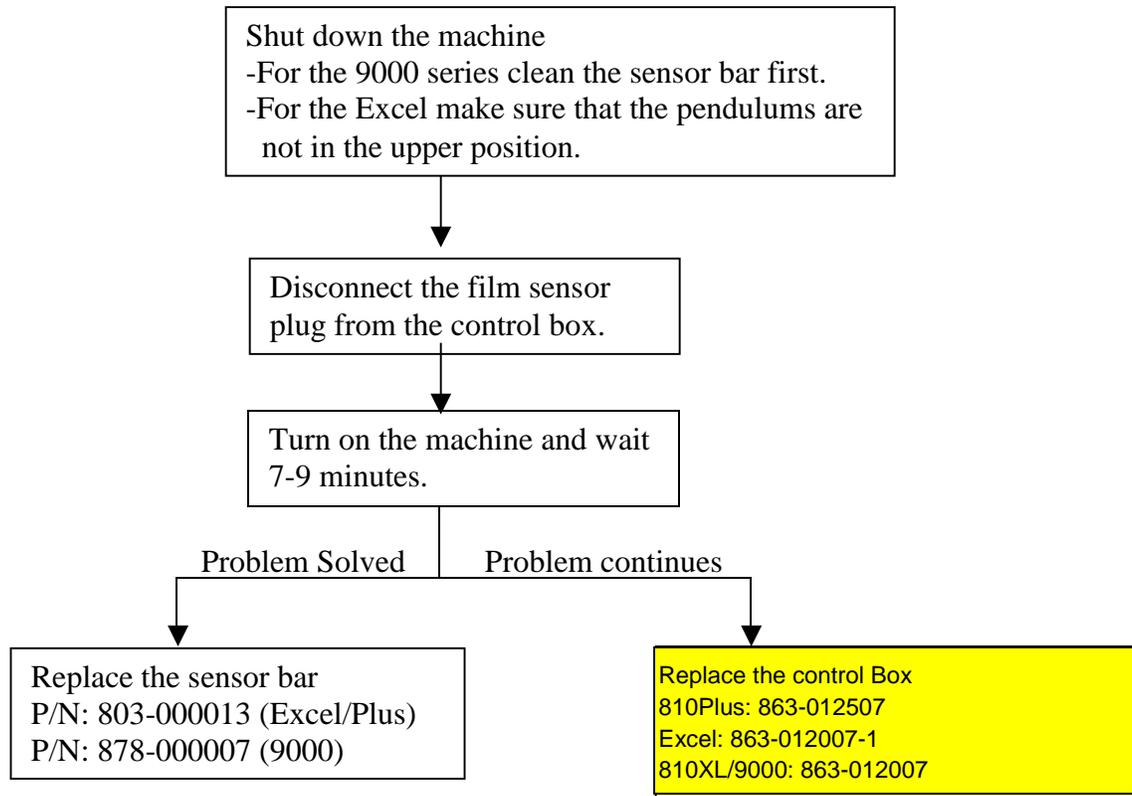
-**Note:** If you came to the conclusion that the PC Board has to be replaced, you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries three months' warranty, while the control box has a twelve-month warranty.

P/N: 863-012107 (Control Box, 810 Basic)

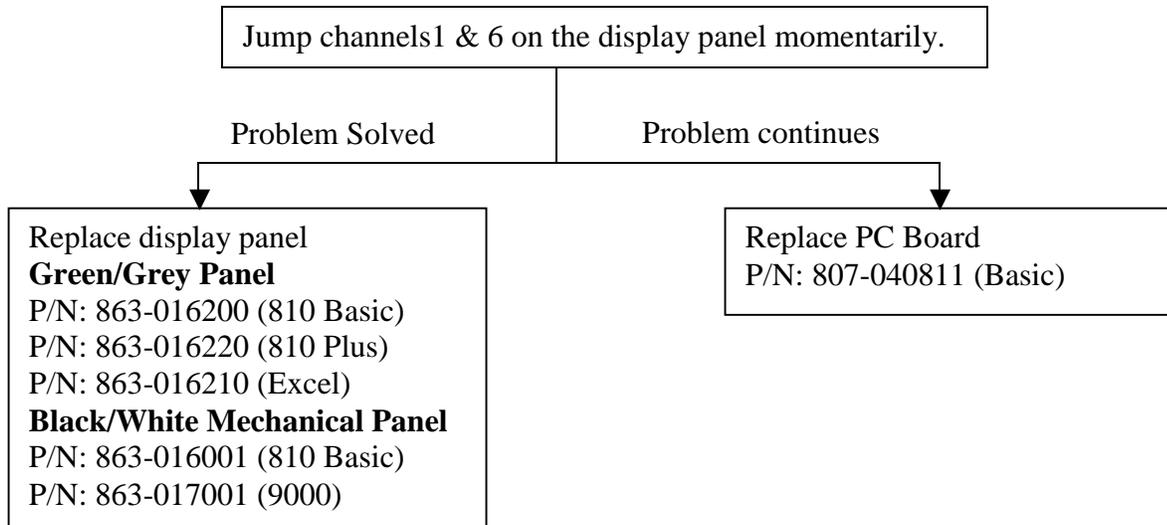
P/N: 863-012507 (Control Box, 810 Plus)

6) Machine runs continuously

810 Plus



a) 810 Basic



Note: If you came to the conclusion that the PC Board has to be replaced you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries three months warranty while the control box has twelve months warranty.

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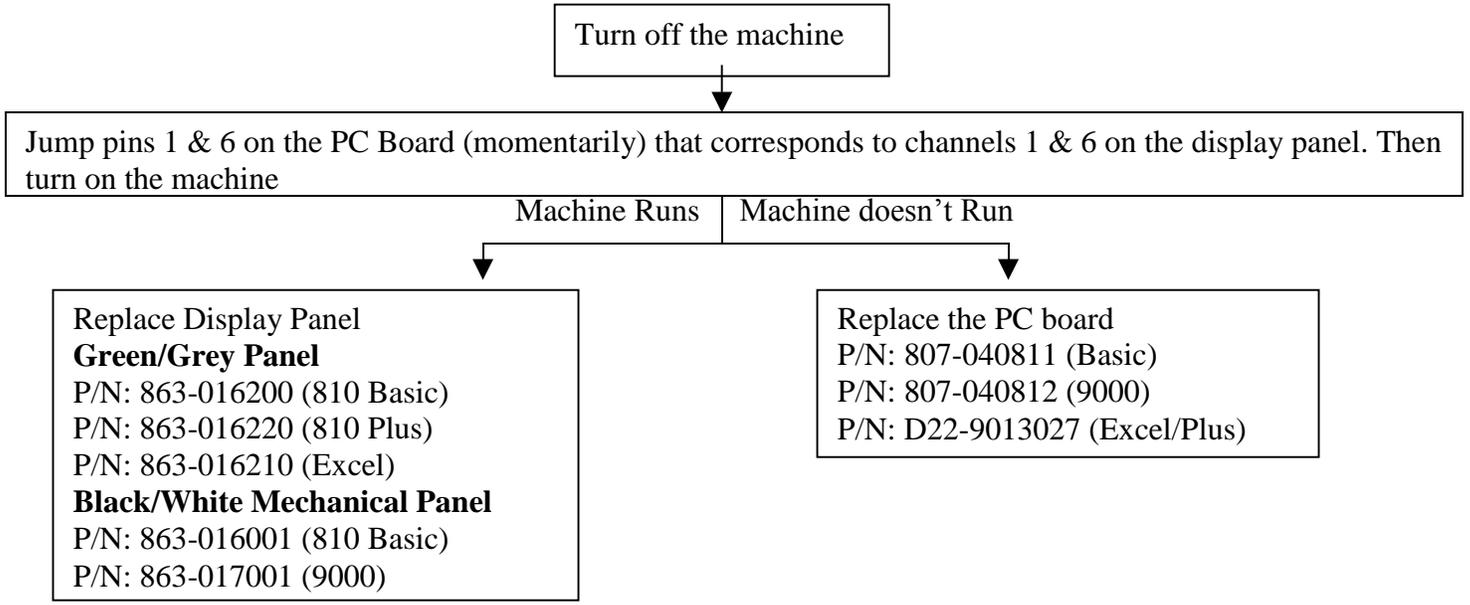
P/N: 863-012507 (Control Box of 810 Plus).

P/N: 863-012007 (Control Box of 9000).

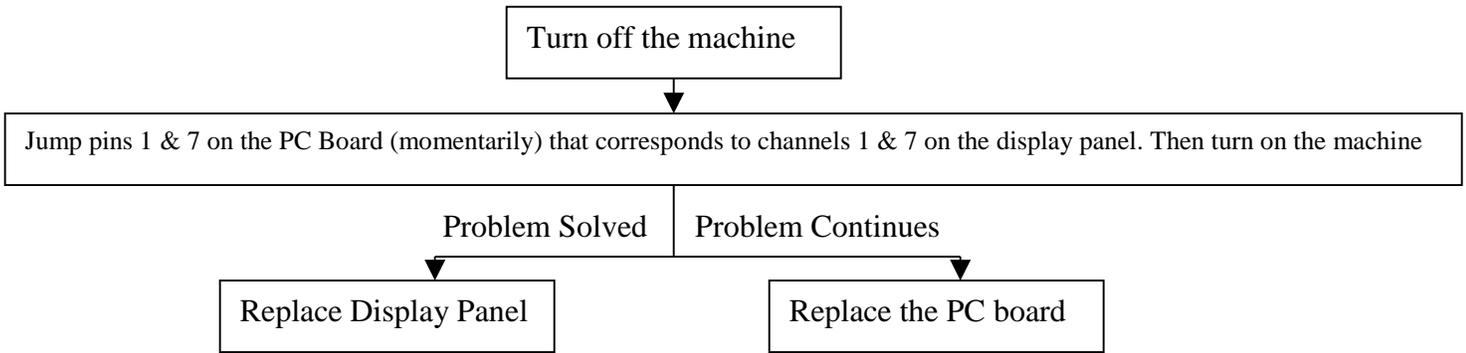
P/N: 863-012007-1 (Control Box of Excel).

7) Troubleshooting the control box.

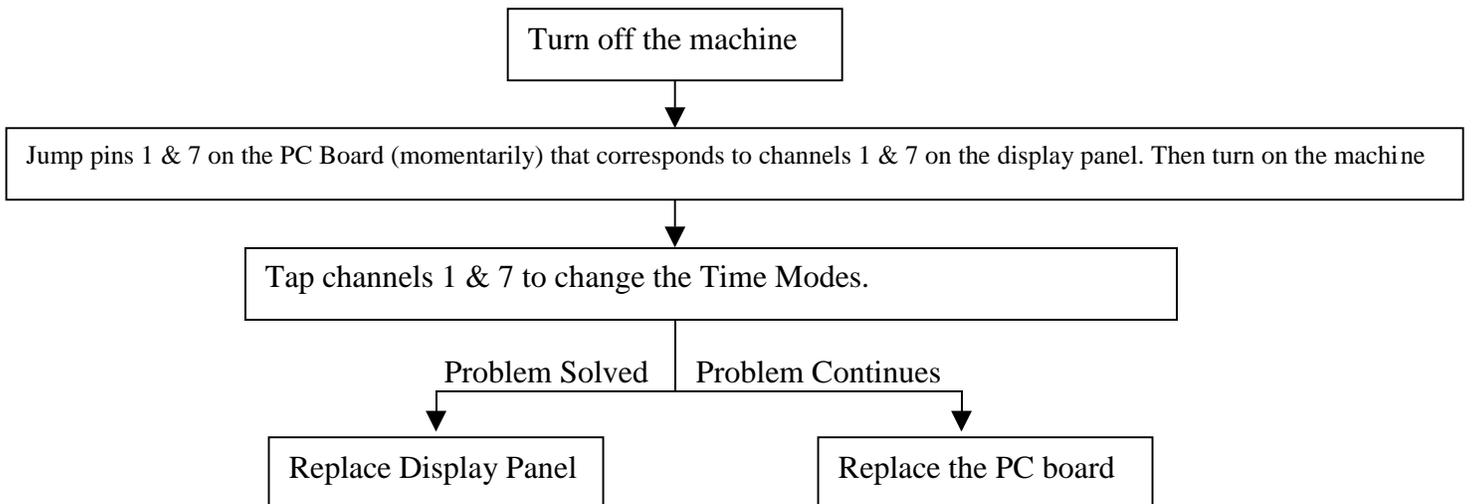
a) Machine doesn't work but mode switch works.



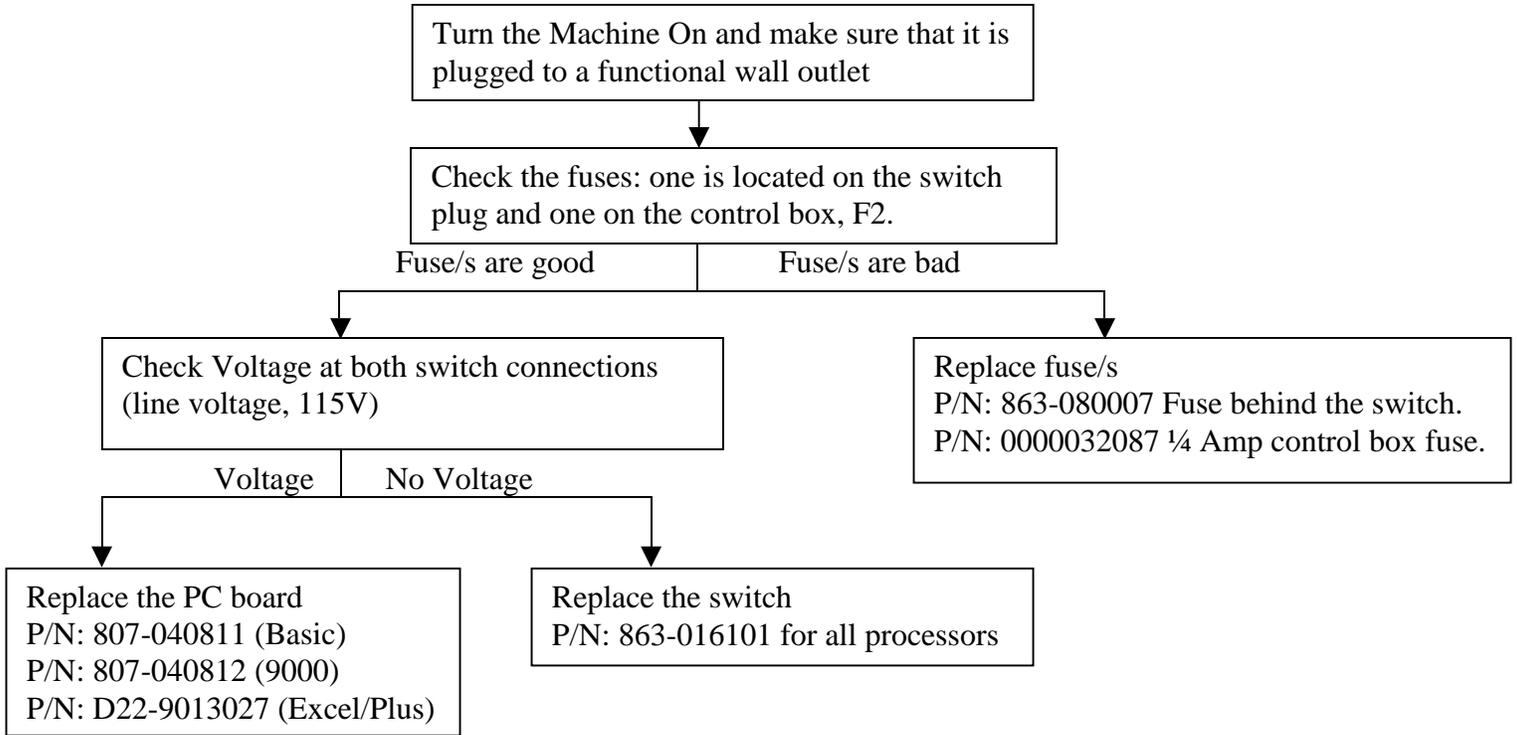
b) Machine Works but the Time Mode Doesn't Work



c) Only One Time Mode Works (Endo, 4.5 min, 6 min)



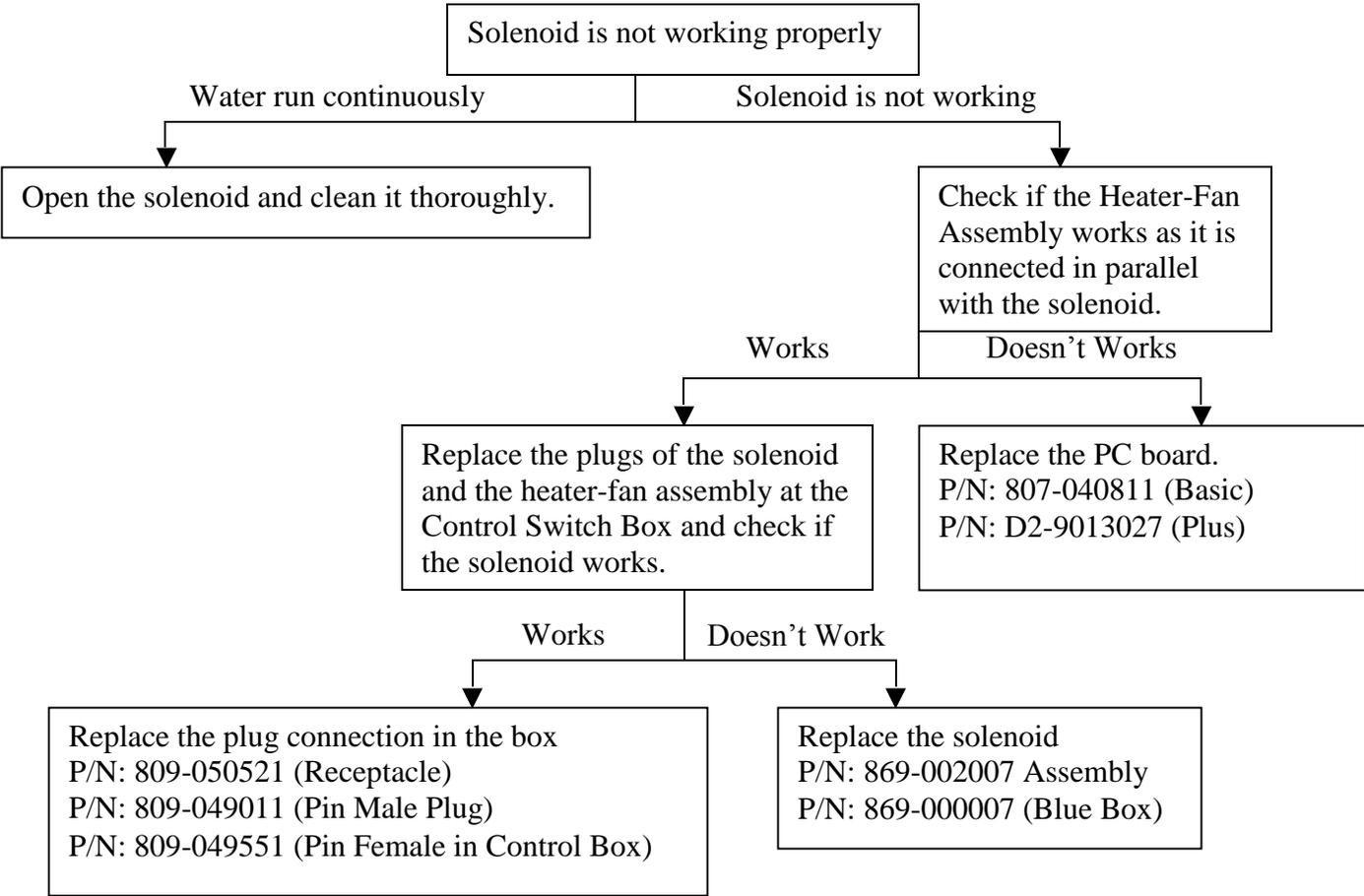
d) No display



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- P/N: 863-012507 (Control Box of 810 Plus).
- P/N: 863-012007 (Control Box of 9000).
- P/N: 863-012007-1 (Control Box of Excel)

8) Solenoid is not working properly



Note: If you came to the conclusion that the PC Board has to be replaced you can also replace the entire control box. The differences are the prices and the lengths of warranty. The PC Board carries a three-month warranty while the control box has a twelve-month warranty.

- P/N: 863-012107 (Control Box, 810 Basic)
- P/N: 863-012507 (Control Box, 810 Plus)

Resistance Values

Component	120 V	220 V
	Ohms	Ohms
heater pad	70-80	230-240
Heater -Fan Assembly	38-40	145-165
Heater Element	47-49	175-200
Dryer Fan	205-210	845-860
Solenoid	500	1500
Motor (Blue Box)	150-170	
Motor (Black Box)	45-55	

Temperature Sensor Values

Developer Temp		Resistance
F	C	K Ohms
97	36.1	9.5
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93	33.8	9.95
91	32.6	10.5
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76	24.4	14.8
74	23.3	15.6
72	22.2	16.25

220 V Parts List

Part	P/N	Note
810 Control Box	863-013107	
4 Amp fuse	809-z090031	Main fuse
Heater-Fan assembly	868-002107	810 only
Heater Element assembly	868-013007	All machines
Dryer Fan	868-021007	All machines
Solenoid Assembly	869-003007	All machines
Water recirculator Ass.	9992405201	All machines
Heating Pad	865-061007	