SAMSUNG

Fast Track Troubleshooting

Models:
DMT300RFB/XAA
DMT300RFS/XAA
DMT300RFW/XAA

IMPORTANT SAFETY NOTICE – "For Technicians Only" This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

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Which Detergent Ingredients Give Best Dishwasher Performance

Detergent with a separate rinse additive in the dispenser gives better drying performance.
For tough baked on soils an Enzyme detergent is better at hydration of the food soils.
For staining such as tomato, coffee and tea, a detergent with Chlorine bleach will work on the stains much better than an Enzyme based detergent.
Now that phosphate content in dishwasher detergent has plummeted to 0.5 percent from as high as 8.7 percent, conditioned (soft) water is even more critical.
The reduction of phosphates may cause spots and film on dishes that can form when the minerals and food bits combine during the wash.
It is important to test water hardness for washability complaints.

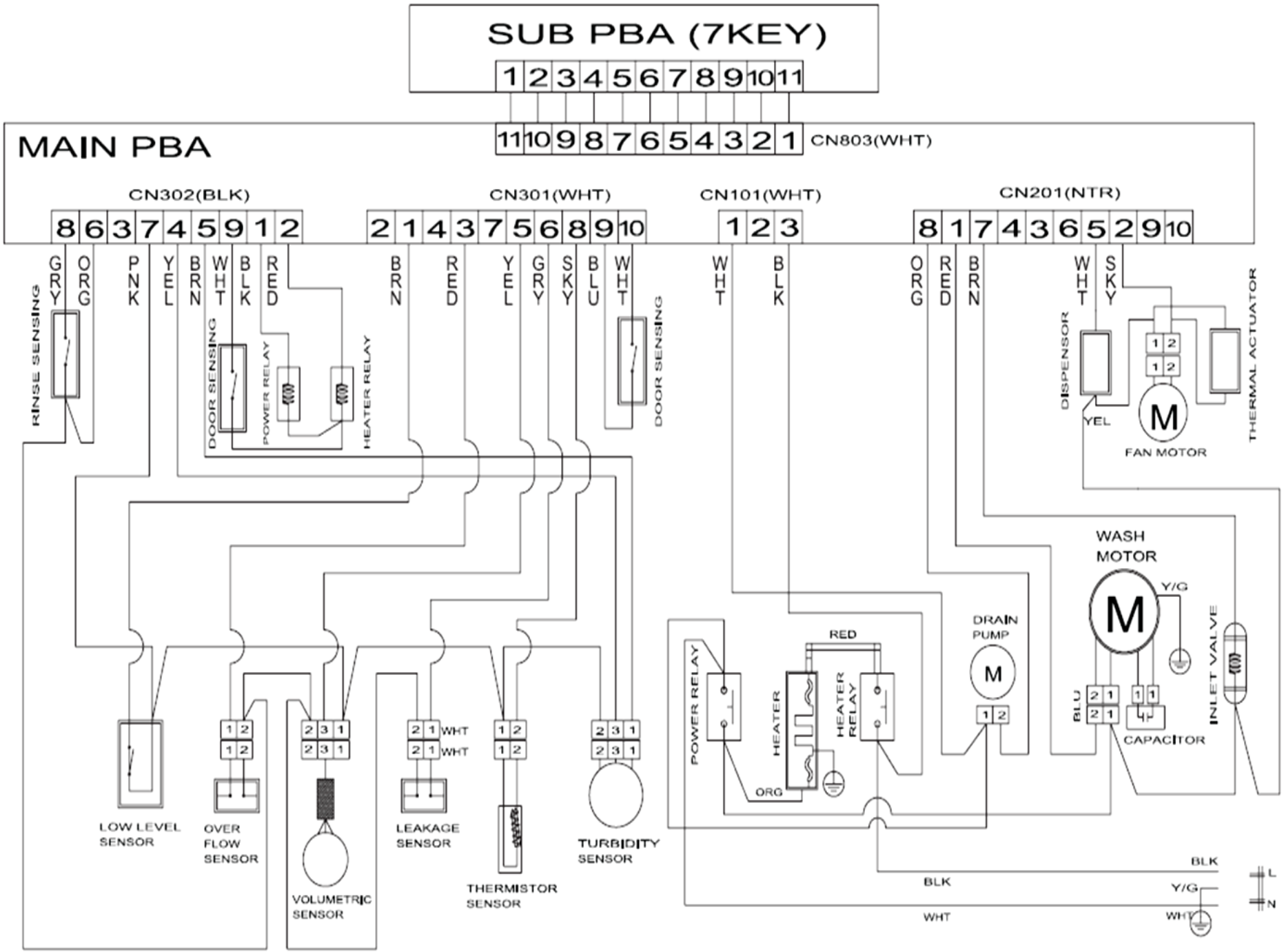
SUPPORT INFORMATION
Training — Plus One
http://my.plus1solutions.net/clientPortals/samsung/
Help — GSPN
http://service.samsungportal.com/

Dishwasher Cycle Chart — Air Vent Dry System

(●: Basic, ○: Flexible step)

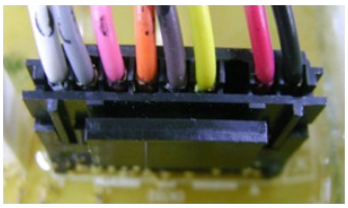
Cycle	Pre-wash1	Pre-wash2	Main wash	Rinse1	Rinse2	Rinse3	Last Rinse [Sanitize]	Dry	Water [gal(ℓ)]	Time (min)
Normal	●	○	● 120 °F ~138 °F (49~59 °C)	●	○		● 136 °F (58 °C) [162 °F (72 °C)	●	3.9~7.9 (14.7~30)	135~165
Heavy	●	●	● 149 °F (65 °C)	●	●	●	● 158 °F (70 °C) [162 °F (72 °C)]	●	9.2 (34.8)	193
Delicate	●		● 122 °F (50 °C)	●			● 140 °F (60 °C)	●	5.2 (19.7)	120
Quick	●		● 122 °F (50 °C)	●			● 140 °F (60 °C) [162 °F (72 °C)]		5.2 (19.7)	81

- The numbers in parentheses in the Last Rinse column represent the temperature when Sanitize is selected. The wash time is the same.
- When Normal cycle is selected, the ○ (flexible) steps can be eliminated depending the amount of soil on the dishes.
- If you select the Delicate cycle, the Sanitize option is disabled to prevent damage to delicate china and glassware.
- The wash time varies depending on the added steps.
- The wash time may vary depending on the water pressure, drain conditions, and temperature of the supplied water.


SUB PBA (7KEY)
1 2 3 4 5 6 7 8 9 10 11
MAIN PBA
11 10 9 8 7 6 5 4 3 2 1 CN803(WHT)
CN302(BLK)
8 6 3 7 4 5 9 1 2
CN301(WHT)
2 1 4 3 7 5 6 8 9 10
CN101(WHT)
1 2 3
CN201(NTR)
8 1 7 4 3 6 5 2 9 10
GRY ORG PNK YEL BRN WHT BLK RED
BRN RED YEL GRY SKY BLU WHT
WHT BLK
ORG RED BRN WHT SKY
RINSE SENSING
DOOR SENSING
POWER RELAY
HEATER RELAY
DOOR SENSING
DISPENSOR
YEL
FAN MOTOR
THERMAL ACTUATOR
WASH MOTOR
Y/G
BLU
CAPACITOR
INLET VALVE
DRAIN PUMP
RED
POWER RELAY
HEATER
HEATER RELAY
ORG
LOW LEVEL SENSOR
OVER FLOW SENSOR
VOLUMETRIC SENSOR
LEAKAGE SENSOR
WHT
WHT
THERMISTOR SENSOR
TURBIDITY SENSOR
BLK
BLK
Y/G
WHT
WHT
L
N

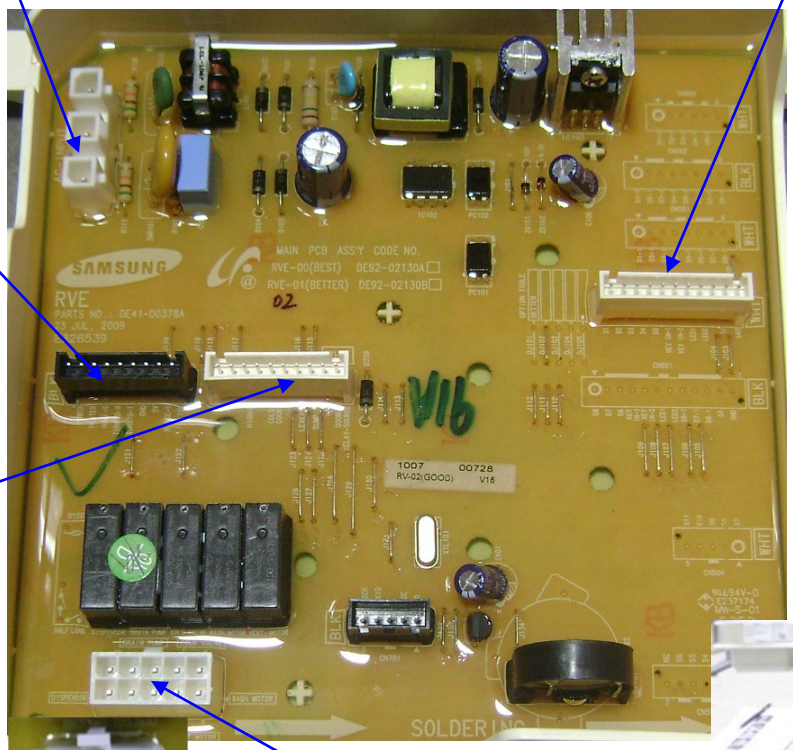
Main PCB

CN302
1-6 Power Relay Driver (Blk-Org)
2-6 Heater Relay Driver (Red-Org)
4-Trubidity Receiver (Yel)
5-Trubidity Transmitter (Brn)
7-6 5vdc (Pnk-Org)
8-Rinse Aid Sensor (Gry)
9-6 12vdc (Wht-Org) (Pwr On)
9-6 6vdc (Wht-Org) (Pwr Off)

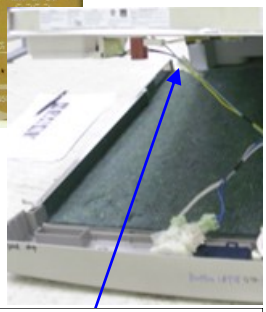


CN01 CN1 PBA Power
1 120vac L1 (Wht)
3 120vac N (Blk)

CN803 Key Driver
10-11 5vdc



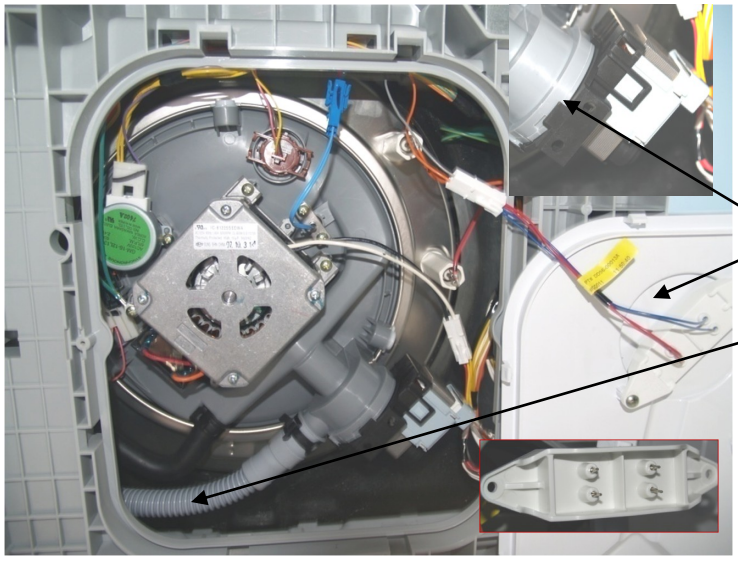
CN301
1-Low Water Sensor
3-Overflow Sensor
5-Water Counter
6-Leakage Sensor
8-Thermistor
9– 12vdc
10-Door Check Receiver



CN201
1-(CN101-1) Wash Mtr (Red-Wht) 120vac (Ω test to Yel on Disp)
2-(CN101-1) Fan Mtr (S/Blu-Wht) 120vac (Ω test to Yel on Disp)
5-(CN101-1) Disp Wax Mtr (Wht-Wht) 120vac (Ω test to Yel on Disp)
7-(CN101-1) Inlet Valve (Brn-Wht) 120vac (Ω test to Yel on Disp)
8-(CN101-1) Drain Pump (Org-Wht) 120vac

Components		
Component	**Voltage**	**Ω**
Water Valve	120vac	1.2 KΩ
Drain Pump	120vac	37Ω-42Ω
Heater	120vac	13Ω
Fan Mtr	120vac	1.8kΩ
Disp Wax Mtr	120vac	2.3KΩ
Thermal Actuator		1.45kΩ
Circulation Mtr	120vac	21.5Ω

Thermistor			
Resistance (kΩ)	**Temp. (ºF)**	**Resistance (kΩ)**	**Temp. (ºF)**
125.78	41	26.065	104
98.323	50	21.385	113
77.454	59	17.599	122
61.465	68	14.579	131
49.12	77	12.14	140
39.517	86	10.159	149
31.996	95	8.542	158



Leaking Code

Moisture creates resistance between the pins. **ALWAYS** clean the area below the pins after troubleshooting.

Check Pump Ass'y for proper twist lock.

Condensation may form on the tray from uninsulated outside walls or large hole in the floor to a cold basement.

Check Drain Hose for cut or small hole.

Check all components mounted to the sump for any leakage.

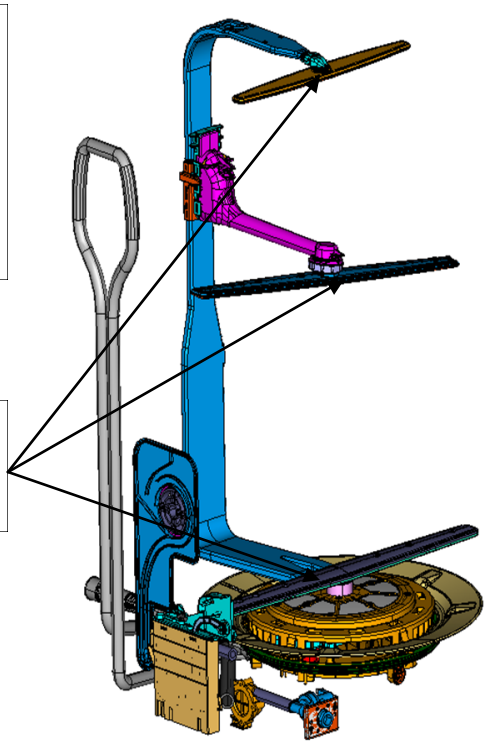
Detergent Door Not Opening

1. Never overfill the dispenser compartment with powder or liquid, only go below or up to fill line.
2. If there is residue around the dispenser door area. Previously undispensed, partially dispensed, or door stuck close issue) clean it with mild soap & water. The residue can foul the mating latch.
3. If the customer uses "tablets" or some self contained type of soap tab, make sure it is fully seated and the door does not 'sandwich' it shut.
4. Make sure that in the rack nearest to the dispenser door when the door is shut, is not obstructing the opening of the dispenser with some protruding utensil.

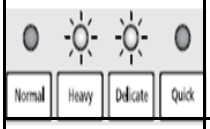
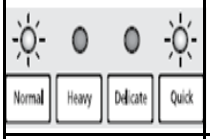
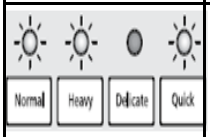
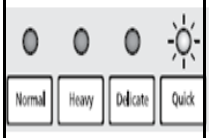
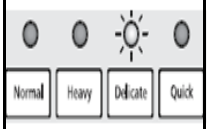
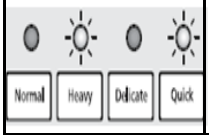
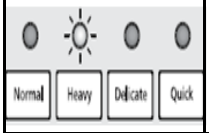
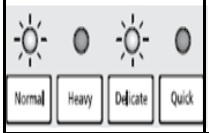
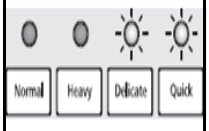
Testing The Detergent Door and Dispenser

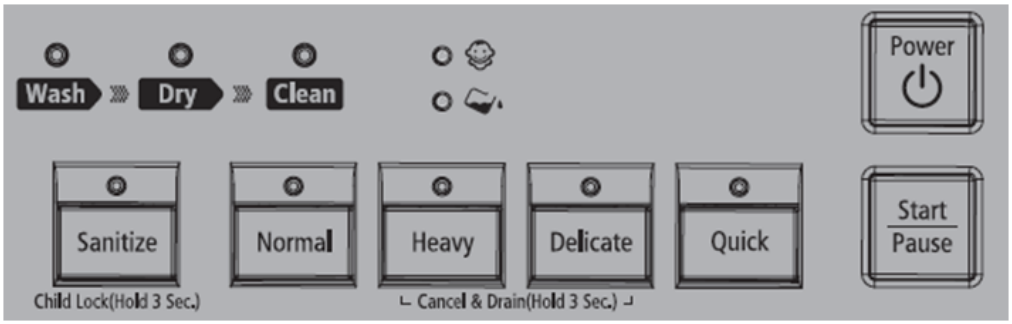
1. Disconnect wires from disp. & close detergent door.
2. Connect Fused cheater cord and apply 120vac
3. In approximately 40 seconds the wax motor will open the door.
4. Remove power, allow wax motor to return.
5. Restore power to wax motor, in approximately 40 seconds the rinse aid will be activated. Remove power.
6. Close detergent door to repeat test

Leaking and Poor Washability—Check for split wash arms



Error Codes

CODE SYMBOL	Meaning	Occurring condition	Expected causes
	Temp Sensor error	When 0.2V or below, or 4.5V or above is maintained for over 3 seconds	Thermistor not connected, Possible defect : Thermistor , Main PBA
	Heater error	When the temperature change is 4℃ or less within the first 10 minutes after the heating starts	Htr terminal not connected Possible defect : Main Wire-Harness, Htr , Htr Relay, Main PBA
	High temp error.	When the temperature of the Thermistor is 80℃ or above for more than 3 seconds	Water supply temp of 80℃ or above Possible defect : Thermistor , Main PBA
	Low-level water error	When Low Level is detected to cause Error even after the water supply resumes after Low Level is detected for the 1st time	Low Level Sensor terminal not connected, Possible defect : Low Level Sensor , Main PBA
	Water supply error	1. When the pulse of 100 or less is detected even 1 minute after the water supply 2. When flow meter pulse is 5 or less 5 seconds after the water supply starts 3. When the water supply does not occur 5 minutes after the water supply starts	Alien particles within water supply valve Water supply valve terminal not connected Possible defect : Main PB, Water supply valve , Flow Meter
	High temp Water error	When 80℃ or above is detected during water supply	Water supply temperature of 80℃ or above Possible defect : Thermistor, Main PBA
	Drain error	When OFF status of Low Level S/W is not detected within 3 minutes during the drain.	Alien particles clogging mater drain hose Drain valve terminal not connected Possible defect : Drain pump, Low Level Sensor , Main PBA
	Over-level water error	When overflow detection AD data is 4.0V or below for 3 seconds (When leakage sensor detects 4.0V or below for 1 sec during water supply)	Particles within water supply valve Case Sensor part leakage, Possible defect : Flow Meter, Main PBA
	Leakage error	When leakage sensor detects 4.5V or below for 1 seconds	Possible defect : Base part hose connection , Sump and Tub assembly, Drain Pump assembly , Main PBA
	Button error	When the button is pressed continuously for over 30 seconds	Possible defect : Sub PBA, Main PBA
	Door open warning	When door is open in washing period.	Door is not close properly. Possible defect : Door lock switch, Main PBA



SVC Test Mode

Press the 'Heavy' + 'Delicate' + 'Power' buttons at the same time for two seconds to enter Service Inspection Mode.

All LEDs are displayed for the first two seconds and then Software-Ver. It will be indicated Binary Code using 'Wash + Dry + Clean + Child Lock' LED.

You can change the mode by pressing the Normal button once more. If press the Normal button in any mode, mode will be changed to next mode.

If 'Heavy + Quick' LED, 'Heavy' LED or 'Heavy + Delicate + Quick' LED error occur, enter the Service Inspection Mode after resolving problem.

Service Inspection Mode is described in the following table. When you activate this inspection mode, the door must be closed.

Mode	Display	Related Parts	Symptoms (LED Blinking)	Note
No.1	'Quick' LED	Inlet Valve Flow Meter Low Level Sensor	Water Supply Error Low Level Water Error 'Normal' + 'Heavy' + 'Delicate' LED	If Door is open, 'Delicate' + 'Quick' LED will blink. Water is supplying after low level S/W is detected. If low level S/W is high, Draining at first. If water is not supplied, Water Supply Error ('Quick' LED) will blink. When water level is low after water is supplied, Low Level Water Error ('Normal' + 'Heavy' + 'Quick' LED) will blink. When Turbidity problem is detected after water is supplied, 'Normal' + 'Heavy' + 'Delicate' LED will blink. If all functions in this mode are completed, 'Wash' LED will blink.
No.2	'Delicate' LED	Circulation Motor	A nozzle does not inject water.	If Low Level S/W is detected before Circulation Motor is operating, 'Sanitize' LED will blink.
No.3	'Delicate' + 'Quick' LED	Circulation Motor Heater Thermistor	Heater Error	If Low Level S/W is detected before Circulation Motor is operating, 'Sanitize' LED will blink. Circulation Motor and Heater will be operated. When the temperature is 60℃ or above, the heater is turned off and 'Wash' LED will blink. If Heater or Thermistor have problems, the Heater Error ('Heavy' + Delicate' LED) will blink. Dispenser will operate during 2 minutes and 10 seconds only one time.
No.4	'Heavy' + 'Quick' LED	Fan Motor Dispensor	The Fan Motor does not work.	Operate Vent Motor and check whether Rinse aid is filled. If there is not rinse in Dispenser, Rinse Refilled light is ON.
No.5	'Heavy' + 'Delicate' LED	Overflow Sensor	Over level water error	Water is supplied until Over Level Water Error ('Heavy' + 'Quick' LED) is blinked. If Over Level Water Error occurs, overflow sensor is OK.
No.6	'Heavy' + 'Delicate' + 'Quick' LED	Drain Pump Low Level Sensor	Drain Error	Drain pump will work until low level is detected. If Low level is not detected after 60 seconds, Drain Error ('Delicate' LED) will blink.
No.7	'Normal' + 'Quick' LED	Inlet Valve Circulation Motor Fan Motor Drain Pump Heater		Operate each operating part when the button is pressed. (See the below) When the 'Quick' button is pressed, it toggles between Inlet Valve On ('Quick' LED On) -> Off ('Quick' LED Off). When 'Heavy' button is pressed, it works Circulation Motor On ('Heavy' LED On) -> Off ('Heavy' LED Off) -> Fan Motor On ('Heavy' LED On) -> Off ('Heavy' LED Off), Drain Pump On ('Heavy' LED On) -> Off ('Heavy' LED Off) When 'Delicate' button is pressed, it woks Heater On ('Delicate' LED On during 2 seconds). When a different button is pressed during individual operation of the operating part, operating part is stopped and the applicable operation for the pressed button's function will start.