



Fast Track Troubleshooting

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.

Model:
DW80F600**



Tech Bulletins:

ASC20130913001-Issued 091013
("Support Cup" / Upper Rack Issue)
ASC20131120001-Issued 112013
(Improved main board software)

Publication # DrDW80F600 Revision date :12/02/13 (RCS)

Support Information:

HELP: 1-888-751-4086 (Tech Sup. – ASC/SSD)

1-866-894-0637 (Tech Sup. - FE/ME)

GSPN: <http://gspn3.samsungcsportal.com/main.jsp>

PLUS ONE: <http://my.plus1solutions.net/clientPortals/samsung>

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 wash ability complaints.

Water -- Too Soft ("over-sudsing") can leave deposits on clean dishes.

Too Hard can cause spotting/staining and poor wash ability

Dishes -- Too Dirty (garbage disposal), Too Clean (over-sudsing) Thoughts? (Drain Suds Lock)

Detergent -- Chlorine, Enzyme, All-in-one & Tablets (over-sudsing) Thoughts? (Suds Lock)

Rinse Additive -- Liquid in dispenser, All-in-one Thoughts?

Cycle chart

(DW80F600 Series)

Cycle	Pre-wash1	Pre-wash2	Main wash	Rinse 1	Rinse2	Rinse3	Last Rinse [Sanitize]	Dry	Water [gal(ℓ)]	Time (min.)
Normal	●	Flex 113 °F (45 °C)	118 ~ 145 °F (48 ~ 63 °C)	Flex	●	x	136 ~ 149 °F (58 ~ 65 °C) [162 °F (72 °C)]	●	3.1 ~ 7.2 (11.7~27.2)	106~143
Heavy	●	●	140 °F (60 °C)	●	●	●	158 °F (70 °C) [162 °F (72 °C)]	●	8.6 (32.5)	152
Delicate	●	x	122 °F (50 °C)	●	●	x	140 °F (60 °C)	●	5.0 (18.8)	117
Smart Auto	●	Flex	122 °F~138 °F (50~59 °C)	Flex	●	x	138 °F (59 °C) [162 °F (72 °C)]	●	3.6~6.7 (13.7~25.2)	107~138

• The numbers in parentheses in the Last Rinse column represent the temperature when you select Sanitize.

• When you select the Smart Auto or Normal cycle, you can eliminate the Flex(flexible) steps depending on the soil level of the dishes.

• The wash time varies depending on the steps or options you add, and on the pressure and temperature of the supplied water.

Thermistor			
Resistance (kΩ)	Temp. (°F)	Resistance (kΩ)	Temp. (°F)
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

Components		
Component	Voltage	Ω
Water Valve	120vac	1.2 KΩ
Drain Pump	120vac	37Ω-42Ω
Heater	120vac	13Ω
Fan Mtr	120vac	2.6kΩ
Disp Wax Mtr	120vac	2.3KΩ
Thermal Actuator		1.45kΩ
Circulation Mtr	120vac	15Ω/21Ω

Diagnostics

CODE SYMBOL	Meaning	Occurring condition	Expected condition
	Temperature Sensor error	When 0.2V or below, or 4.5V or above is maintained for over 3 seconds.	Assy Sensor ECS terminal not connected - Possible defect : Assy Sensor ECS, Main PBA
	Heater error	When the temperature change is 4°C or less within the first 10 minutes after the heating starts.	Heater terminal not connected - Possible defect : Main Wire-Harness, Heater, Main PBA
	High temperature Heating error.	When the temperature of the Thermistor is 80°C or above for more than 3 seconds.	Water supply temperature of 80°C or above. - Possible defect : Assy Sensor ECS, Main PBA.
	Low-level water error	1.When high level sensor is not detected after water supply was done, drain & refill the water. After then, if high level sensor is not detected again, this error is occurred. 2.When low level sensor is detected over 5 seconds during wash operation, this error is occurred.	Water-level sensor terminal is not connected. - Possible defect : Assy Case Brake, Assy Sensor ECS, Main PBA.
	Water supply error	1. When the pulse of 100 or less is detected even 73 seconds after the water supply. 2. When flow meter pulse is 5 or less for 13 seconds after the water supply starts. 3. When the water supply does not complete 6 minutes after the water supply starts.	Alien particles within water supply valve. Water supply valve terminal not connected. - Possible defect : Main PBA, Water supply valve , Flow Meter.
	High temperature Water supply error	When 80°C or above is detected during water supply .	Water supply temperature is 80°C or above. - Possible defect : Assy Sensor ECS, Main PBA.
	Drain error	When OFF status of Low Level SW is not detected within 3 minutes during the drain.	Case Sensor part breakdown. - Possible defect : Flow Meter, Main PBA, Water supply valve. - Possible defect : Drain pump, Assy Sensor ECS, Main PBA.
	Over-level water error	When overflow detection AD data is 3.5V or below for 3 seconds. (When leakage sensor detects 3.5V or below for 1 seconds during water supply).	Case Sensor part breakdown. - Possible defect : Flow Meter, Main PBA, Water supply valve
	Leakage error	When leakage sensor detects 3.5V or below for 1 seconds.	- Possible defect : Each hose connection, Sump and Tub assembly, Drain Pump assembly , Main PBA.
	Button error	When the button is pressed continuously for over 10 seconds.	- Possible defect : Sub PBA in control panel, Main PBA.
	Door open warning	When door is open in washing period.	Door is not closed properly in test mode only. - Possible defect : Door lock switch, Main PBA.
	Communication error	Communication error between Micom in sub PBA and Touch IC in touch PBA or between Micom in sub PBA and Micom in main PBA..	- Touch IC is damaged or reset from power noise. - Micom in sub PBA or main PBA is damaged. - Un-connection Signal pin (not DC voltage) between touch PBA and sub PBA or between sub PBA and main PBA.

Service Inspection Mode

Mode	Display	Related Parts	Symptoms	Note
No.1	'Smart Auto' LED	- Drain pump - Inlet Valve - Flow Meter - Water-level sensor - Turbidity	Door open warning Water supply Error Low level water Error Turbidity Error	If Door is open, Door open warning ('Delicate + Smart Auto' LED) will blink. If low level sensor is not detected, Drain is executed. Water supply will be executed when low level sensor is Off. If water is not fully supplied(sensing on flow-meter), the Water Supply Error ('Smart Auto' LED) will blink. When high level sensor is not detected after water supply was done, Low-level water error ('Normal + Heavy + Smart auto' LED) will blink. When Turbidity problem is occurred after water supply was done, Turbidity Error ('Normal + Heavy' 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 sensor is detected before Circulation Motor is operating, ('Delicate + Sanitize' LED) will blink. When water is filled enough, Circulation Motor -2(190W) will be operated.
No.3	'Delicate' + 'Smart Auto' LED	Circulation Motor	A nozzle does not inject water.	If Low Level sensor is detected before Circulation Motor is operating, ('Delicate + Smart auto + Sanitize' LED) will blink. When water is filled enough, Circulation Motor- 1(150W) will be operated.
No.4	'Heavy' LED	- Circulation Motor - Heater - Thermistor (or Assy Sensor ECS) - Dispenser	Heater Error	If Low Level sensor is detected before Circulation Motor is operating, ('Heavy + Sanitize' LED) will blink. When water is filled enough, Circulation Motor 1(150W) and Heater will be operated. When the temperature meet 60°C or above, the heater is turned off and the 'Wash' LED will blink. If Heater or thermistor(or Assy Sensor ECS) have problems, the Heater Error ('Heavy + Delicate' LED) will blink. Dispenser will operate during 130 seconds only one time.
No.5	'Heavy' + 'Delicate' + 'Smart Auto' LED	- Dry Fan Motor - Dispenser	The Dry Fan motor does not work.	Operate the Dry Fan Motor and check whether Rinse aid is filled or not. If there is not rinse aid in Dispenser, Rinse Refill lamp is ON.
No.6	'Normal' LED	- Inlet valve - Overflow Sensor	Over level water Error	Water is supplied until Over-level water error ('Heavy + Smart Auto' LED) is blinked. If Over-level water error occurs, overflow sensor is OK.
No.7	'Normal' + 'Smart Auto' LED	- Drain Pump - Water-level sensor	Drain Error	Drain pump will drain until low level sensor is detected. If Low level sensor is not detected after 60 seconds, Drain Error ('Delicate' LED) will blink.
No.8	'Normal' + 'Delicate' + 'Smart Auto' LED	- Inlet Valve - Circulation Motor - Dry Fan Motor - Drain Pump - Heater		Operate each operating part when the key is pressed. (See the below) When the 'Smart Auto' Key is pressed Water supply is On('Smart Auto' LED On) and pressed again it is Off ('Smart Auto' LED Off) When 'Heavy' Key is pressed each time, it works the Circulation Motor-1 is On ('Heavy' LED On) → Off ('Heavy' LED Off) → Circulation Motor-2 is On ('Heavy' LED On) → Off ('Heavy' LED Off), Drain Pump is On ('Heavy' LED On) → Off ('Heavy' LED Off). When 'Delicate' Key is pressed, it works Heater On ('Delicate' LED On during 2 seconds) and Off automatically. When a different key is pressed during individual operation of the operating part, present operating part is stopped and the applicable operation for the pressed key will start.

Assy Sensor ECS

Assy Sensor ECS
(DW80F800,
DW80F600)

Inspect the "O" ring seal on the sensor. If it is damaged in any way, replace the "O" ring seal.

9E [Or] 'Normal' + 'Heavy'
+ 'Smart Auto' LED
(DW80F800,
DW80F600 Series)

1. Check the connections for the Assy Sensor ECS connectors.

- Reconnect the Assy Sensor ECS connector.



1. Check the Assy Sensor ECS

- Check the number 1 and 3 in the connector with power
- Normal : 4 ~ 5Vdc

- Fault : Replace the Assy Sensor ECS.



Main Board



- CN101
1) GND
2) NC
3) NEUTRAL
4) NC
5) LIVE
- CN301
1) HIGH-R
2) HIGH/LOW-T
3) LOW-R
4) HIGH/LOW-T
5) OVER FLOW
6) COLD COUNT
7) 5V
8) LEAKAGE
9) SUMP THERMISTOR
10) 12V
11) DOOR-SENSE

- CN302
1) HALF LOAD SENSE
2) TURBIDITY-R
3) TURBIDITY-T
4) GND
5) 5V
6) RINSE-SENSE
7) OPTION-SENSE

- CN102
1) 5V
2) 12V
3) RXD
4) TXD
5) WAKE-UP
6) GND

- CN501
1) GND
2) MODE
3) 5V
4) OCKIO
5) OCKCK

- CN202
1) COLD-VALVE
2) NC
3) OPTION
4) NC
5) DRAIN-PUMP

- CN201
1) DISPENSER
2) NC
3) HALF LOAD (option)
4) NC
5) Dry Fan MOTOR
6) NC
7) WASH MOTOR -1
8) NC
9) WASH MOTOR-2

- T201
LIVE

- T202
HEATER

MODEL : DM80F800 / DM80F800 SERIES

