

SAMSUNG

Model: WF50K8700
WF45K6500



Fast Track Troubleshooting

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Bulletins:

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Support Information:

HELP: 1-888-751-4086 (Tech Sup. – ASC/SSD) - 1-866-894-0637 (Tech Sup. - FE/ME)

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

E-Learning: samsungasc.earlyconnect.com

MCP & E-Learning Support: 1-800-749-9421 – e-learning@sea.samsung.com

Smart install mode

Step 1



Step 2



Automatic Mode



Component - Check Chart

Sub Mode	Description
1	Check door lock test
2	Check drain pump operation test
3	Check Prewash valve operation test
Co	Check cold water valve operation test
Ho	Check hot water valve operation test
6	Check wash heater operation test
7	Check rinse operation test
8	Check spin operation test
9	Not Used
10	Check door unlock test
OK(OK)	Smart Install automatic mode. Everything OK

Step 3



A. Automatic mode will activate all component checks automatically and take approx 3 mins to complete.

Manual Mode



B. Manual mode will activate One function at a time with the press of the Delay End button, this mode is recommended when troubleshooting for specific component failure.

Diagnostic -Check for Errors

Step 1

In Smart install mode
– press the button on the bottom right corner as shown until Cr is displayed



Step 2

Turn the Jog Dial clockwise

If there is an error, it will display
---- means no error.



Quick Test Mode

Warning Test Mode will delete any stored error code from the history.



Unlock test mode;

- Press Power + TEMP + Soil level at the same time for 5 seconds until 02 displays
- Turn Off the unit

Enter test mode;

- With the power off, press Power + SPIN + Soil Level at the same time for 5 seconds until 88:88 is displayed
- Turn Jog Dial to access different modes

TEST	FUNCTION Check	Turn Jog Dial
1	Software	Normal
2	Water Pressure	Bedding
3	Temp Celsius	Whites
4	Pulsator test	Delicates
5	Spin test	Wool
TEST	FUNCTION test	PRESS Button
1	Water Valve Test	TEMP
2	Door Lock	SPIN
3	Add Door Lock	Self Clean
3	Drain Pumps	Soil Level
4	Heater Relay	SuperSpeed

Data Display mode

Step 1
Power ON



Step 2
Press A – C – B – C



Step 3
Turn Jog dial to move to different tests and wait 2 seconds to enter test



Data ID	Remark
1	Main MICOM Version
6	Last Error Code
7	Water Level
8	Water Temperature
18	RPM Check

Data display mode will allow you to view Micom version, Last Error recorded, Water Level pressure, and water temperature

Troubleshooting Errors *1C, 5C*

1C Error - Water Level Sensor

Check Point Water level sensor/Water level sensor terminal

Causes

- ① Faulty Water Level Sensor
- ② Sensor not connected properly
- ③ Main PCB fault
- ④ Harness

Step 1

- ① Check the water level sensor terminal connections and contacts
- ② Check for torn or damaged wiring to pressure sensor
- ③ With pressure sensor connector removed, measure resistance of pressure sensor terminals
 → Pin 1 and 2 - open
 → Pin 1 and 3 - approx. 21 Ω
 → Pin 2 and 3 - open

Step 2

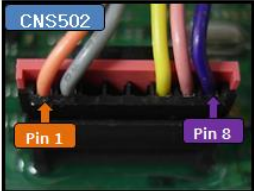
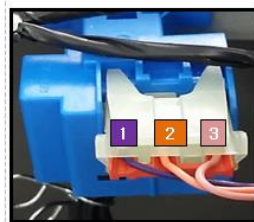
- ① Reinstall pressure sensor connector and check the frequency of the water level sensor with the washer on and the tub empty (no water)
 → Pin 1 and 2 - approx. 25.2KHz
 → Pin 2 and 3 - approx. 25.2KHz

Step 3

- ① Remove Sensor connector, turn on the washer and measure DC voltage at the sensor connector
 → Pin 1 to 2 - approx. 2.3V
 → Pin 2 to 3 - approx. 5V
- ② If a voltage is missing or is out of range follow **step 4**

Step 4

- ① Leave Sensor connector removed with the unit on and check the water level sensor voltage supply at Main PCB CNS502
 → Pin 1 to 7 - approx. 5V
 → Pin 1 to 8 - approx. 2.3V
- ② Remove connector CNS502 and measure DC output voltage at the Main PCB
 → Pin 1 to 7 - approx. 5V
 → Pin 1 to 8 - approx. 2.3V



5C Error - Drain Error

Check Point Drain Pump/Foreign material in Drain Pump/Frozen During Winter

Causes

- ① Foreign materials in drain pump
- ② Drain hose bent or kinked
- ③ Drain pump defective
- ④ Main PCB fault
- ⑤ Pressure sensor hose

Step 1

- ① Remove filter and check for lint build up or foreign objects.
 → Remove debris and test unit to see if it drains properly
- ② Check behind the unit to verify proper routing of the drain hose
 → If hose is kinked re-arrange to prevent drain restrictions
- ③ Remove drain pump and check if foreign objects are stuck on the impeller.

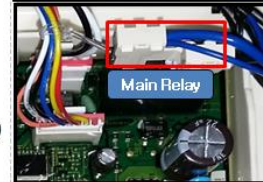
Note: *If unit is draining properly, no water on the tub after drain is completed and still get a drain error, check the water pressure sensor*

Causes

- ① Foreign materials in drain pump
- ② Drain hose bent or kinked
- ③ Drain pump defective
- ④ Main PCB fault

Step 2

- ① Remove connector CN10 and check resistance of the Drain Pump at the Main PCB from CN10 connector (Violet) wire to the Main Relay (Blue) wire
 → Approx. -13.5 Ω to 16.5 Ω
 → If meter reads open, check harness
 → If harness is ok, see ③
- ② Reinstall connector to CN10 and measure voltage output from the Main PCB to the drain pump at CN10 Pin 1 (Violet) to Main Relay (Blue) wire while in drain mode
 → Approx. - 120AC should
 → Replace Main PCB if voltage is missing
- ③ Check the resistance of the drain pump with wires removed
 → Approx. -13.5 Ω to 16.5 Ω
 → Replace Drain Pump if resistance is out of spec



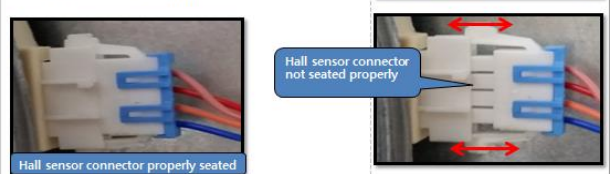
Troubleshooting Errors *3C*

3C Error-Wash Motor Error/Hall Sensor Error

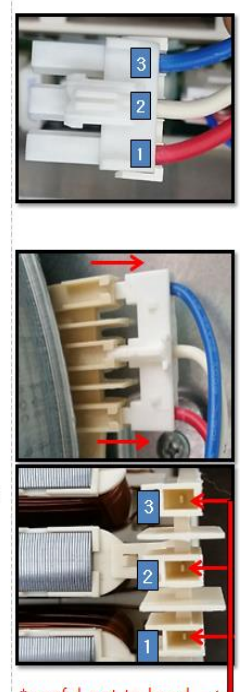
Check Point Wash Motor/ Hall Sensor/ Wire Harness

- Causes**
- ① Bad connections to the motor
 - ② Faulty Wash Motor
 - ③ Faulty Hall Sensor
 - ④ Defective rotor or stator
 - ⑤ Main PCB defective

- Step 1**
- ① Check the stator connector terminal connections and contacts.
 - ② Check stator for bent pins specially after taking measurements with multi-meter leads
 - ③ Check the Hall sensor connector at the Stator terminal



- Step 2**
- ① Remove connector CN6 from the inverter PCB and measure resistance
 - Pin 1 to 2 approx. 10Ω to 13Ω
 - Pin 2 to 3 approx. 10Ω to 13Ω
 - Pin 1 to 3 approx. 10Ω to 13Ω
 - Follow next step if a reading was abnormal
 - ② Remove connector from stator and measure resistance at stator terminal
 - ③ Measure resistance at Stator terminal:
 - Pin 1 to 2 approx. 10Ω to 13Ω
 - Pin 2 to 3 approx. 10Ω to 13Ω
 - Pin 1 to 3 approx. 10Ω to 13Ω
 - If meter reads open on any of the readings above replace Stator



- Step 3**
- ① Check the harness and connection of hall sensor at the Inverter PCB CN2 to make sure is connected properly
 - ② Measure the output voltage to the Hall sensor from the Inverter PCB on connector CN2
 - Pin 1 to 4 - 5V (follow ③ if 5V is missing)
 - Pin 2 to 4 - approx. $0V \sim 3.5V$
 - turn the rotor by hand and reading should fluctuate from $0V$ to $3.5V$
 - Pin 3 to 4 - approx. $0V \sim 3.5V$
 - turn the rotor by hand and reading should fluctuate from $0V$ to $3.5V$
 - If voltage does not fluctuate, check harness and if harness is in good condition, replace the Stator
 - ③ Remove connector CN2 from the inverter PCB and measure the output voltage to the hall sensor
 - Pin 1 to 4 - 5V
 - Replace the Inverter PCB if 5V is missing



- Step 4**
- ① Check rotor to see if any foreign object is restricting it from turning smoothly ex. A screw from the cabinet attracted to the magnet.
 - ② Overloading unit with too much laundry can cause restriction to the motor causing a 3C error. Hall sensor is going to read a lower than expected RPM triggering an error code.



Troubleshooting Errors *4C*

4C Error - Water Supply Error

Check Point Water Supply Valve/Main PCB/Frozen During Winter

- Causes**
- ① Damaged harness
 - ② Water supply valve fault
 - ③ Frozen water supply during winter
 - ④ Pressure sensor hose
 - ⑤ Main PCB

- Step 1**
- ① Check for any physically damaged valves
 - ② Look for any clogged valves.
→ Water calcification can cause restriction on water flow
 - ③ A 3C error code can be caused by a flood safe water supply line previously installed.
→ Flood safe water hose can sometimes shut off the water supply even if there is not a leak
 - ④ Frozen Valve during extreme cold weather conditions.
→ During extreme cold weather conditions, valves can freeze causing restriction to water flow
→ Advise customer to have unit installed at an appropriate location or this can cause valves to crack and leak when temperature rises and ice melts on the valve



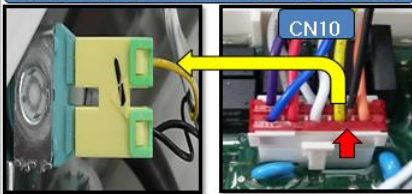
- Causes**
- ① Damaged harness
 - ② Water supply valve fault
 - ③ Frozen water supply during winter
 - ④ Main PCB fault



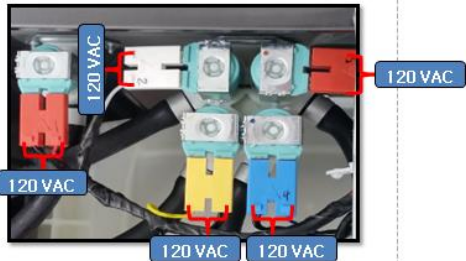
- Step 2**
- ① Visually inspect water valve harness for damaged or torn wire
→ Repair or replace harness if damaged
 - ② On the Main PCB connector CN10, locate the wire belonging to the valve you want to check and measure continuity
→ Continuity or less than 5Ω
→ Repair or replace harness if no continuity

BUBBLE PUMP	GRY	5
DRAIN PUMP	VIO	6
DOOR UNLOCK	WHT	7
DOOR LOCK	BLK	8
HOT VALVE	RED	9
PRE VALVE	WHT	10
BLEACH VALVE	YEL	11
MAIN VALVE	BLU	12
SHOT VALVE	ORG	13
OPTION		14

EX. CHECKING THE BLEACH VALVE HARNESS



- Step 3**
- ① Measure resistance across each valve terminal
→ Approx. - .09kΩ to 1kΩ
 - ② When valve is operating, measure the voltage output of the main board at the valve after verifying good wire harness condition.
→ 120VAC at valve terminal only when valve is activated
→ Replace Main PCB if is missing



- Step 4**
- ① Visually inspect every inch of the pressure sensor hose for any damage or small holes.
→ Hose could have a very small hole and might be hard to notice unless you do a thorough inspection
→ Replace pressure sensor hose if damaged
 - ② Check to make sure terminal is properly connected to the water level sensor



Sample of damaged hose

Troubleshooting Errors

*AC, UB, DC/DC1, DDC/DC3 *

AC Error- Communication Error

Check Point Main PCB/Sub PCB/Wire harness

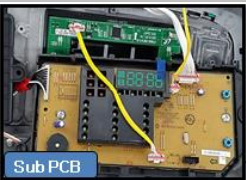
Causes

- ① The signals between the Sub and Main PCB are not sensed
- ② Misconnection between the Sub and Main PCB.

Step 1

- ① Check the wire connections and terminal contacts between the sub and main PCB
- ② Check for disconnected or loose wires.
- ③ Visually inspect the Sub PCB for moisture or water damage
→ **Spilled detergent on the control panel can potentially cause damage to the board causing communication errors**

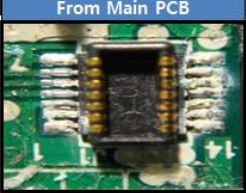
Sub PCB



To Sub PCB



From Main PCB



Main PCB CNS801



CNS801

- 1. SUB Communications signal
- 2. SUB Communications signal
- 3. SUB Reset signal
- 4. 5V
- 5. Ground
- 6. 12V
- 7. Empty pin
- 8. Power SW signal
- 9. SUB Water Level signal
- 10. 5V
- 11. Inverter Communications signal
- 12. Inverter Communications signal
- 13. Ground

Pins 1 to 9 go to Sub PCB

UB Error - Unbalance Error

Check Point Laundry contents/improper installation

Causes

- ① Improperly loaded laundry
- ② Uneven basket
- ③ Defective damper

Step 1

- ① Check how the consumer is loading the washer
→ **Instruct the customer to press pause, reposition the load or remove a few items and press start to resume wash cycle**
- ② Make sure the unit is properly level and that floor where unit is installed is solid and even
- ③ Inspect dampers for any physical abnormalities
- ④ UB occurs when the hall sensor reads abnormal spinning of the tub and does not indicate a defective hall sensor.
- ⑤ Find the source causing the unit to be unbalance: improperly loaded laundry, unit not leveled due to uneven floor, broken or bent leg





DC/DC1 Error - Door Error

Check Point Door Switch/Switch Harness/Main PCB

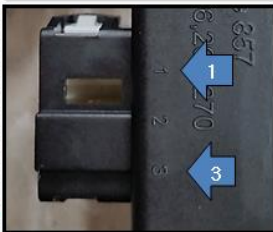
Causes

- ① Defective door switch
- ② Faulty door lock switch
- ③ Damaged harness

Step 1

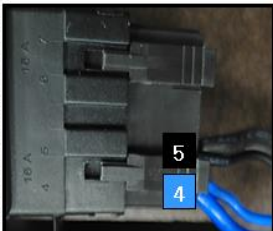
- ① Check the door switch
→ Door open - open
→ Door closed - less than 1Ω
- ② Check door lock resistance
→ Pin 1 to 3 - approx. 121Ω
→ If meter reads out of range or open load, replace door lock switch assembly
→ If resistance is within range and door is not locking, check harness





Step 2

- ① While the unit is on standby mode the door lock switch should measure the AC voltage from the Main PCB
→ Pin 4 to 5 - approx. 108VAC



DDC/DC3 Add door switch error

Check Point Door Switch/Switch Harness/Main PCB

Causes

- ① Main PCB did not sense closed door
- ② Defective add door switch
- ③ Defective switch harness
- ④ Damaged harness
- ⑤ Faulty Main PCB

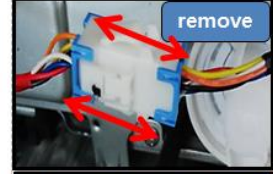
Step 1

- ① Check the add wash door switch at switch harness for easier access
- ② Check resistance of door switch between orange and yellow wire.
→ Door open - open
→ Door closed - less than 1Ω
→ **Replace Add Door Switch if out of spec**
- ③ Measure the resistance of the door lock between the black and white wire
→ Approx. - 46Ω (+/-15Ω)
→ **Replace Door Lock if out of spec**

Connector located by filter



remove



Terminal going to door



Step 2

- ① Inspect the door lock switch assembly and Make sure CN300 is seated properly on main PCB



Troubleshooting Errors

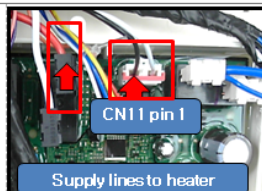
***HC/HC1, LC ***

HC/HC1 Heater error

Check Point Heater/Heater wires/Thermistor/Main PCB

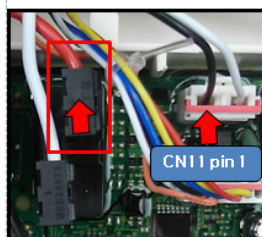
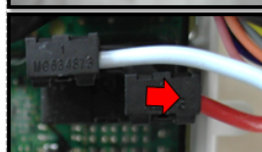
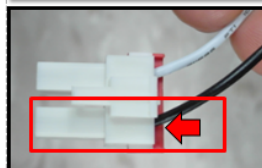
Causes

- ① Unit failed to raise water temperature
- ② Bad connection to heater
- ③ Defective heater
- ④ Damaged harness
- ⑤ Faulty Main PCB



Step 1

- ① Remove power to the unit, then remove connector CN11 and measure resistance of the Heater from the Heater Relay (Red) wire to the CN11 connector Pin 1 (Black) wire
 → Approx. 16.5Ω
 → check harness if out of range, if harness is in good condition, replace the Heater
- ② Reconnect CN11, plug in the washer and set it on a heater on mode. Measure the voltage at the Main PCB between CN11 pin 1 and the heater relay (red) wire when the heater is active
 → 120VAC
 → If voltage is missing or abnormal, replace the Main PCB



Step 2

- ① Remove wire connectors to the heater and measure the resistance of the Heater
 → Pins 1 to 2 - Approx. 16.5Ω
 → Pins 1 to 3 - Open
 → Pins 2 to 3 - Open
 → Replace heater if a reading is out of range



LC Error - Water Leakage Error

Check Point Pressure sensor hose

Causes

- ① Damaged water pressure sensor hose
- ② Pressure sensor hose not connected properly



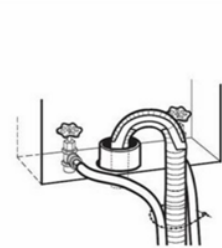
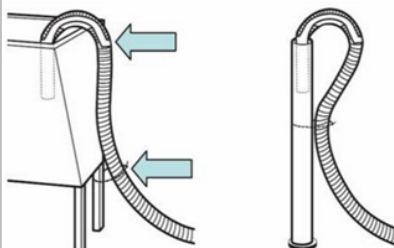
Step 1

- ① Visually inspect every inch of the pressure sensor hose for any damage or small holes.
 → Hose could have a very small hole and might be hard to notice unless you do a thorough inspection
 → Replace pressure sensor hose if damaged
- ② Verify that pressure sensor hose is properly connected to the pressure sensor and to the washer tub.



Step 2

- ① Visually inspect the drain hose for proper installation
 → Make sure drain hose is properly installed and preventing water to siphon back into the washer



Troubleshooting Errors

OC

OC Error - Overflow Error

Check Point Pressure sensor hose/ Water level sensor/harness

Causes

- ① Broken Water pressure sensor hose
- ② Faulty water pressure sensor
- ③ Stuck open water valve
- ④ Excess of suds

Step 1

- ① Visually inspect every inch of the pressure sensor hose for any damage or small holes.
→ Hose could have a very small hole and might be hard to notice unless you do a thorough inspection
→ Replace pressure sensor hose if damaged
- ② Check to make sure terminal is properly connected to the water level sensor
- ③ During the winter season, if the pressure sensor water hose freezes, it can also cause an OC Error.
- ④ OC overflow error occurs when water level detection does not work and water is supplied to unit continually.
→ If the pressure sensor, hose and harness checks out ok, replace the Main PCB

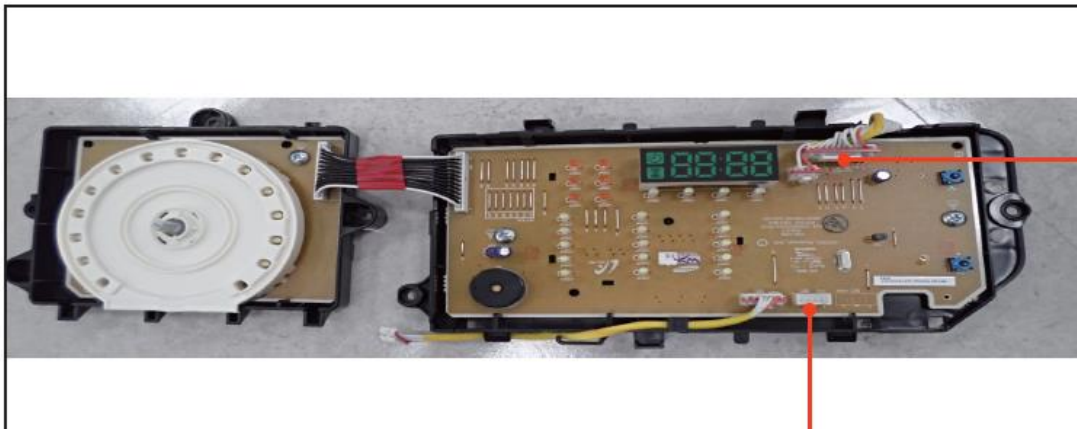


Step 2

- ① Measure resistance across each valve terminal
→ Approx. - .09kΩ to 1kΩ
→ Replace if valve is out of range
- ② A valve could be mechanically stuck open allowing water into the tub
→ If water is supplied to washer while washer is off, a valve is stuck open
→ Shut the water supply off and replace defective valve
- ③ Excess of suds can also cause a OC error code
→ Run unit through rinse and if it has too much suds, run a clean cycle without detergent



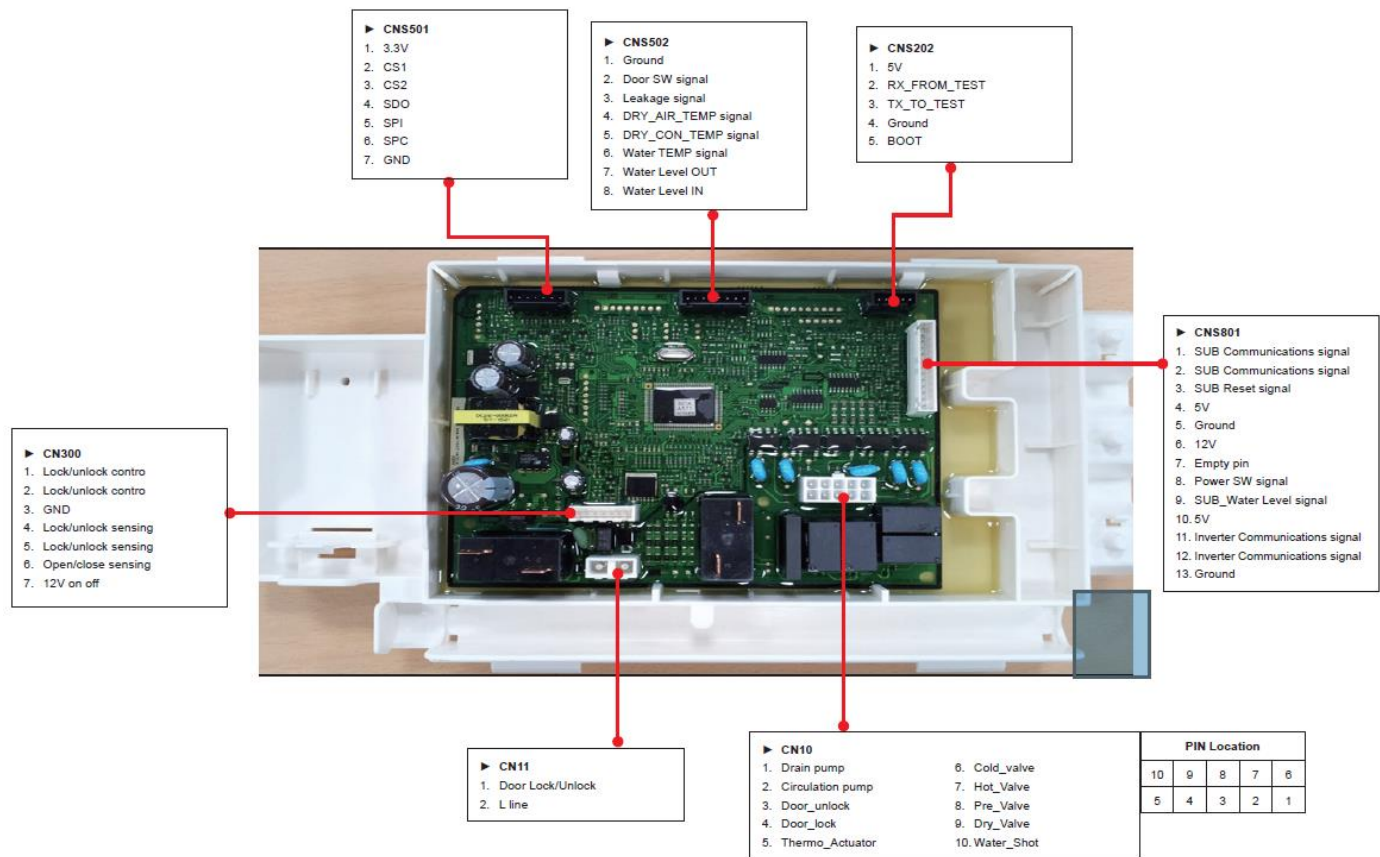
Sub Board



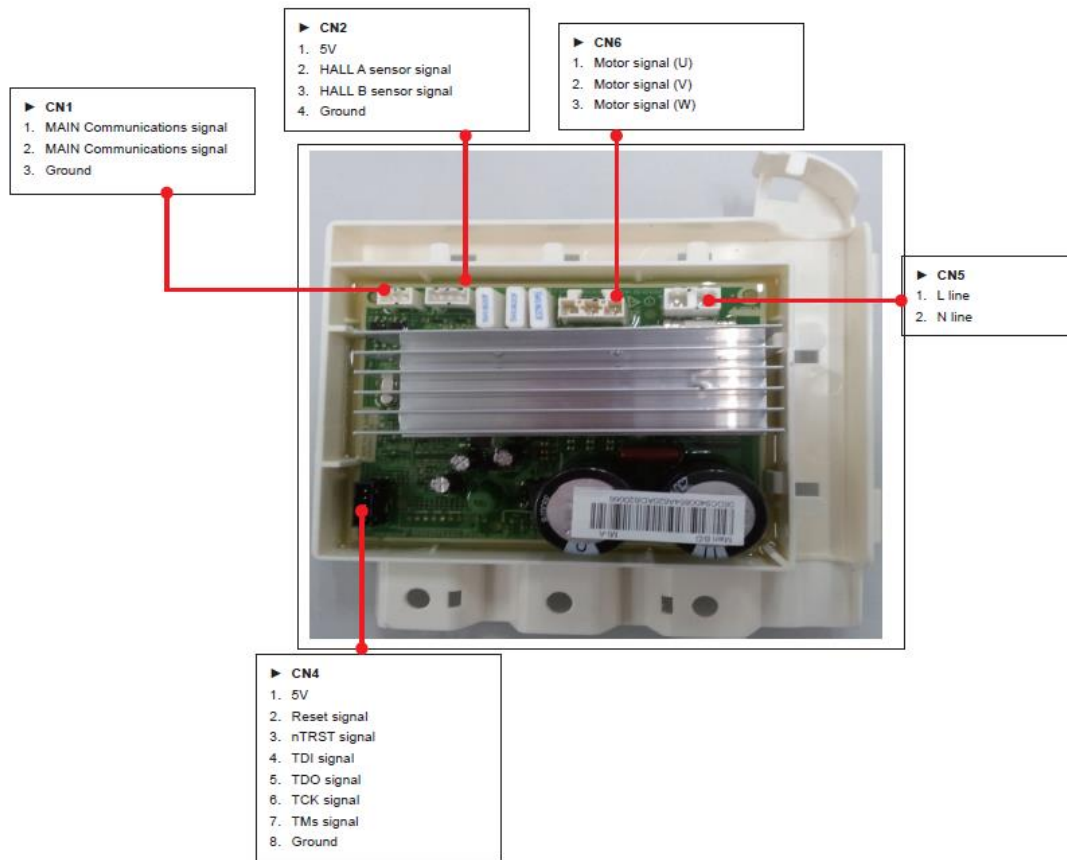
- CN201
1. Communications Port(Rx)
 2. Communications Port(Tx)
 3. Reset Signal input
 4. 5V
 5. GROUND
 6. 12V
 7. Empty Pin
 8. Power_SW
 9. Water level Signal
 10. Empty Pin

- CN402
1. 12V
 2. GROUND
 3. SDA1
 4. SCL1
 5. Empty Pin

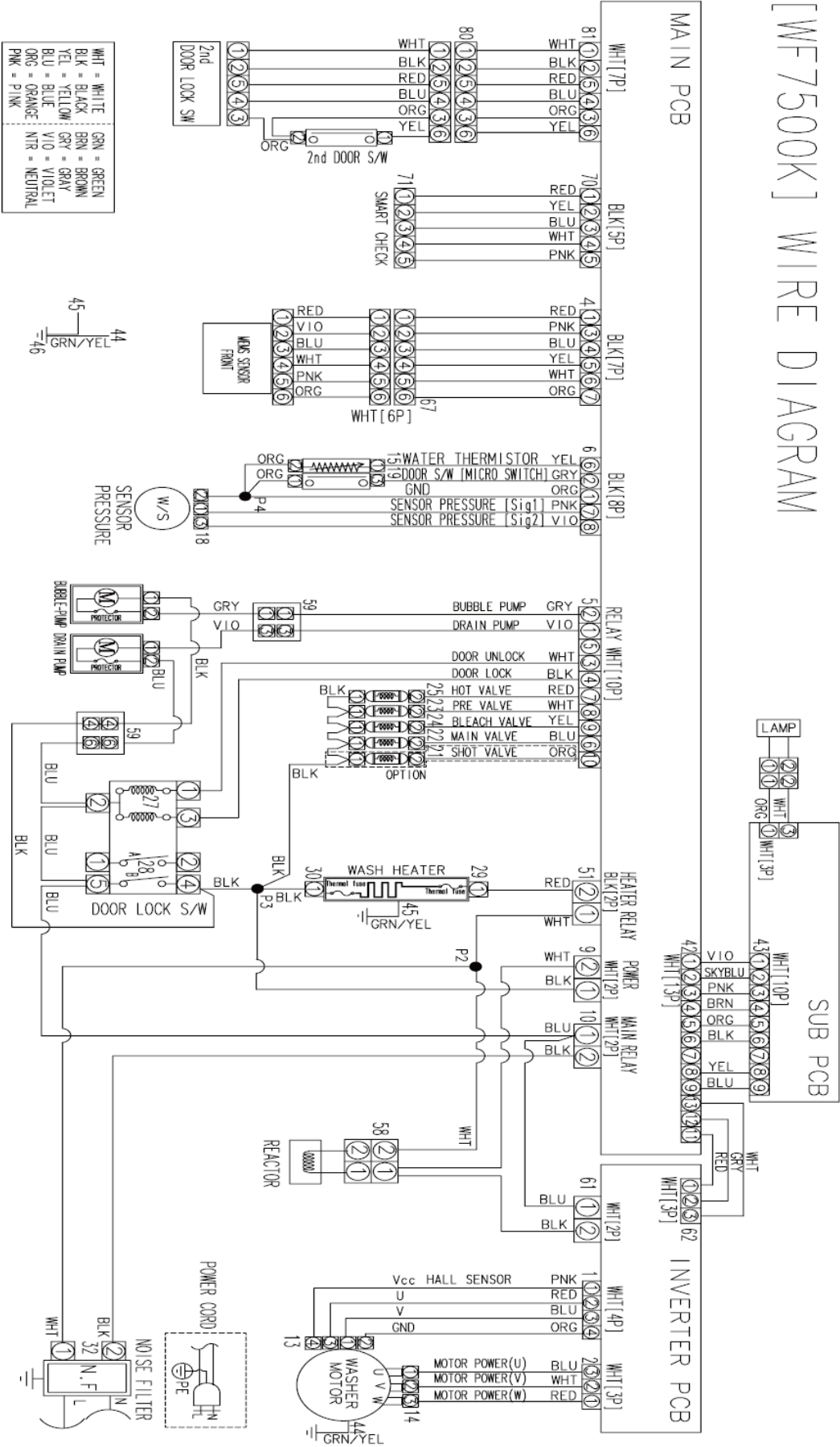
Main



Inverter



[MF7500K] WIRE DIAGRAM



Reference

PROBLEM	SOLUTION
Will not start.	- Make sure the door is firmly closed. - Make sure your washer is plugged in. - Make sure the water source faucets are open. - Make sure to press the Start/Pause Button to start your washer. - Make sure the Child Lock is not activated. See page 24. - Before your washer starts to fill, it will make a series of clicking noises to check the door lock and do a quick drain. - Check the fuse or reset the circuit breaker
Has no water or not enough water.	- Turn both faucets on fully. - Make sure the door is tightly closed. - Straighten the water inlet hoses. - Disconnect hoses and clean the screens. Hose filter screens may be clogged. - Open and close the door, then press the Start/Pause Button.
Has detergent remains in the automatic dispenser after the wash cycle is complete.	- Make sure your washer is running with sufficient water pressure. - Make sure the Detergent Selector dial is in the upper position when using granular detergent.
Vibrates or is too noisy.	- Make sure your washer is set on a level surface. If the surface is not level, adjust your washer feet to level the appliance. - Make sure that the shipping bolts are removed. - Make sure your washer is not touching any other object. - Make sure the laundry load is balanced.
Stops	- Plug the power cord into a live electrical outlet. - Check the fuse or reset the circuit breaker. - Close the door and press the Start/Pause Button to start your washer. For your safety, your washer will not tumble or spin unless the door is closed. - Before your washer starts to fill, it will make a series of clicking noises to check the door lock and do a quick drain. - There may be a pause or soak period in the cycle. Wait and it may start. - Check the screens on the inlet hoses at the faucets for obstructions. Clean the screens periodically.
temperature water.	- Make sure the temperature selection is correct. - Make sure the hoses are connected to the correct faucets. Flush water lines. - Check the water heater. It should be set to deliver a minimum 120 °F (49 °C) hot water at the tap. Also check the water heater capacity and recovery rate. - Disconnect the hoses and clean the screens. The hose filter screens may be plugged. - As your washer is filling, the water temperature may change as the automatic temperature control feature checks incoming water temperature. This is normal. - While your washer is filling, you may notice just hot and/or just cold water going through the dispenser when you have selected cold or warm wash temperatures. This is a normal function of the automatic temperature control feature as your washer determines the temperature of the water.
Door locked or will not open.	- Press the Start/Pause Button to stop your washer. - Your washer door will remain locked during the heating portion of the Sanitize Cycle. - It may take a few moments for the door lock mechanism to disengage.
Does not drain and/or spin.	- Check the fuse or reset the circuit breaker. - Straighten the drain hoses. Eliminate kinked hoses. If there is a drain restriction, call for service. - Close the door and press the Start/Pause Button. For your safety, your washer will not tumble or spin unless the door is closed. - Make sure the debris filter is not clogged.
Load is too wet at the end of the cycle.	- Use the High or Extra High spin speed. - Use high efficiency detergent to reduce over-sudsing. - The load is too small. Very small loads (one or two items) may become unbalanced and not spin out completely.
Leaks water.	- Make sure the door is firmly closed. - Make sure all hose connections are tight. - Make sure the end of the drain hose is correctly inserted and secured to the drainage system. - Avoid overloading. - Use high efficiency detergent to prevent over-sudsing.
Has excessive suds.	- Use high efficiency detergent to prevent over-sudsing. - Reduce the detergent amount for soft water, small or lightly soiled loads. - Non-HE detergent is NOT recommended.
Has an odor.	- Excessive suds collect in nooks and crannies and can cause foul odors. - Run cleansing cycles to sanitize the machine periodically. (Sanitize Cycle or Self Clean+) - Clean the door seal (Diaphragm). - Dry the interior of your washer after the total cycle has finished.