SAMSUNG

TOP–LOADING WASHER

Basic Model : WA50R5200AW/US
(WA5000ROJECT)

Model Code : WA51DG5505A*
WA52DG5500A*

SERVICE Manual

CUSTOMER REPAIR GUIDE

Clothes Washer (TOP-LOADING)

WA51DG5505AVUS

CONTENTS

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1. SAFETY INSTRUCTIONS

1-1. SAFETY INSTRUCTIONS FOR SERVICE ENGINEERS

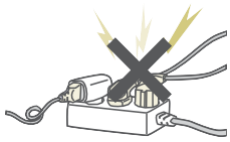
- Be sure to observe the following instructions to operate the product correctly and safely to prevent possible accidents and hazards while servicing.
- Two types of safety symbols, Warning and Caution, are used in the safety instructions.

⚠ WARNING	**Hazards or unsafe practices that may result in severe personal injury or death.**
⚠ CAUTION	**Hazards or unsafe practices that may result in minor personal injury or property damage.**

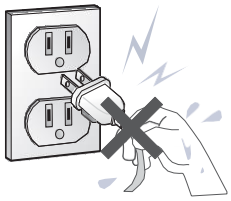
⚠ WARNING BEFORE SERVICING

- (When servicing electrical parts or harnesses) Make sure to disconnect the power plug before servicing.
  !! Failing to do so may result in a risk of electric shock.

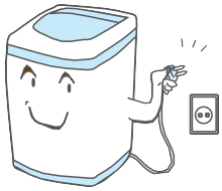
- Educate consumers to not connect several appliances to a single power outlet at the same time.
  !! There is a risk of fire due to overheating.



- When removing the power cord, make sure to hold the power plug when pulling the plug from the outlet.
  !! Failing to do so may damage the plug and result in fire or electric shock.



- When the washing machine is not being used, make sure to disconnect the power plug from the power outlet.
  !! Failing to do so may result in electric shock or fire due to lightning.



- Do not place or use gasoline, thinners, alcohol, or other flammable or explosive substances near the washing machine.
  !! There is a risk of explosion and fire caused from electric sparks.

⚠ WARNING WHILE SERVICING

- Check if the power plug and outlet are damaged, flattened, cut or otherwise degraded.
  - If faulty, replace it immediately.
    Failing to do so may result in electric shock or fire.
  - If plug is faulty replace it, if outlet in consumers home is faulty have consumer call an electrician to replace.

- Completely remove any dust or foreign material from the housing, wiring and connection parts.
  - This will prevent a risk of fire and electrical hazard.

- When connecting wires, make sure to connect them using the relevant connectors and check that they are connected properly.
  - If tape is used instead of the connectors, it may cause fire due to tracking.

- Make sure to discharge the PBA power terminals before starting the service.
  - Failing to do so may result in a high voltage electric shock.

- When replacing the heater, make sure to fasten the nut after verification that it is inserted into the bracket-heater.
  - If not inserted into the bracket-heater, it touches the drum and could cause noise and electric leakage.

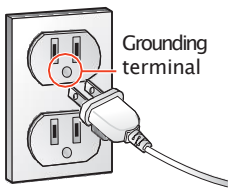
⚠ WARNING AFTER SERVICING

- Check the wiring.
  - Ensure that no part of the wiring harness makes contact with any rotating part or sharp edges.

- Check for any water leakage.
  - Perform a test run for the washing machine to ensure no leakage under the machine , at any hose connection, or at the drain hose.

- Do not allow consumers to repair or service any part of the washing machine themselves.
  - This may result in personal injury and shorten the product's life cycle.

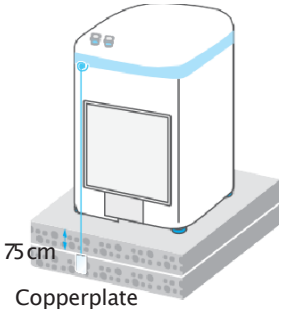
- If it seems that grounding is needed due to water or moisture, make sure to run grounding wires. (Check the grounding of the power outlet, and additionally ground it to a metallic water pipe.)
  - Failing to do so may result in electric shock due to electric leakage.



[Running a grounding wire]

- Twist a grounding wire (copper wire) two or three times around the tap.
- If you connect the grounding wire to a copperplate, bury it 75 cm under the earth in a place with a lot of moisture.

  ⚠ Do not connect the grounding wire to a gas pipe, plastic water pipe or telephone wire. There is a risk of electric shock or explosion.



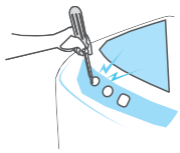
⚠ CAUTION BEFORE SERVICING

- Do not sprinkle water onto the washing machine directly when cleaning it.
  ll' This may result in electric shock or fire, and may shorten the product's life cycle.

- Do not place any containers with water on the washing machine.
  ll' If the water is spilled, it may result in electric shock or fire. This will also shorten the product's life cycle.

- Do not install the washing machine in a location exposed to snow or rain.
  ll' This may result in electric shock or fire, and shorten the product's life cycle.

- Do not press a control button using a sharp tool or object.
  ll' This may result in electric shock or damage to the product.



⚠ CAUTION WHILE SERVICING

- When wiring a harness, make sure to seal it completely so no liquid can enter.
  ll' Make sure that they do not break when force is applied.

- Check if there is any residue that indicates liquid entered the electric parts or harnesses.
  ll' If any liquid has entered into a part, replace it or ensure no remaining moisture inside the part.

- If you need to place the washing machine on its back or side for servicing purposes, place a support(s) on the floor and lay it down carefully so its back/side is on the floor.
  ll' Do not lay it down on its front. This may result in cosmetic damage to frame front and/or damage to the tub.

⚠ CAUTION AFTER SERVICING

- Check the assembled status of the parts.

  II' Now is a good time to inspect your work. Review all connections and wiring, including mounting hardware.

- Check the insulation resistance.

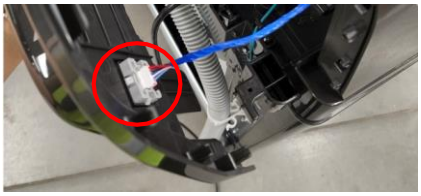
  II' Disconnect the power cord from the power outlet and measure the insulation resistance between the power plug and the grounding wire of the washing machine. The value must be greater than 10MΩ when measured with a 500V DC Megger.

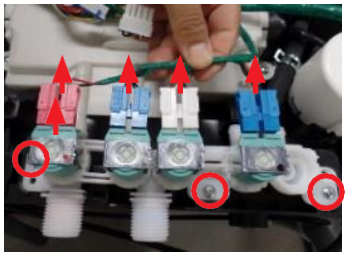
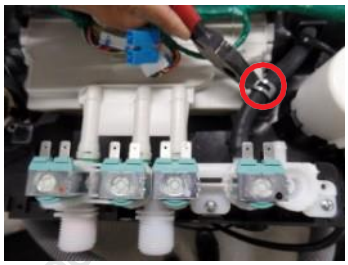
- Ensure washing machine is level by pressing down on corners to check for any movement. If not level, adjust legs and check again until no movement is present.
  Verification that unit is level will reduce customer dissatisfaction and redo call.

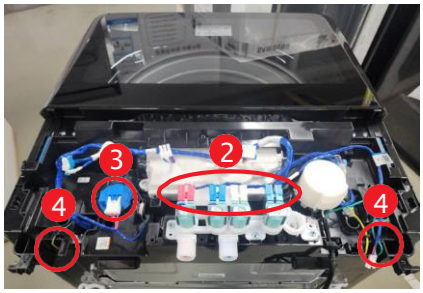
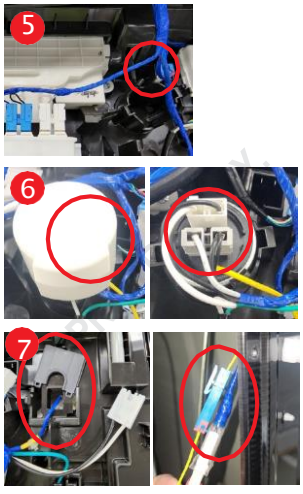
  II' Vibrations can shorten the lifetime of the product.

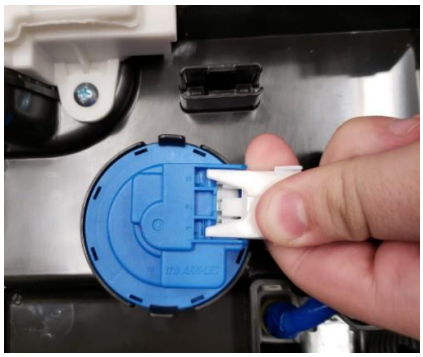
3. DISASSEMBLY AND REASSEMBLY

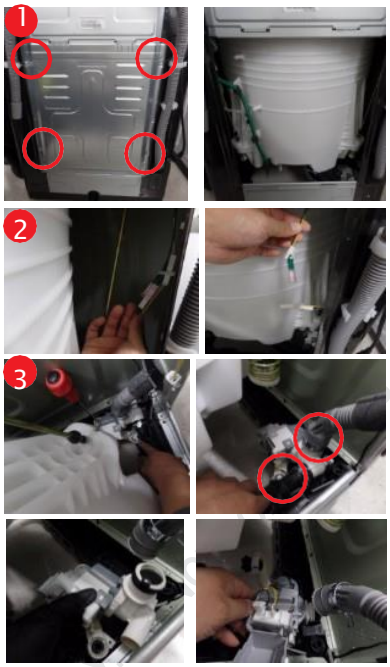
3-1. DISASSEMBLY

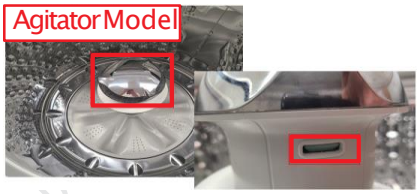
Part	Figure	Description
Sub and Main PCB		1. Remove the 5 screws holding the control panel assembly.
		2. Remove the Panel Cover by pressing on the 4 inner hooks, 2 corner hooks, and pulling up.
		3. Remove the Hass connector from the Cover Connector.
		4. Checking Warning Text "ELETRIC SHOCK HAZARD"
		5. Separate Panel Control from Cover Top
		6. Disassembly 1 Screw between COVER PCB ~ PANEL CONTROL
		7. Checking 5 Hooks and disassembly COVER PCB

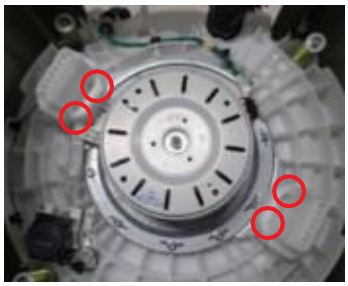
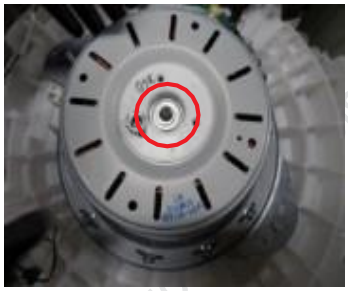
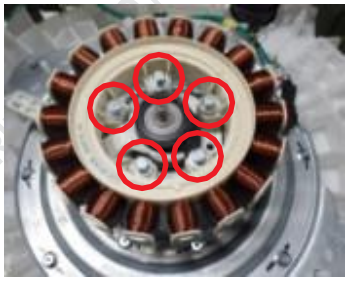
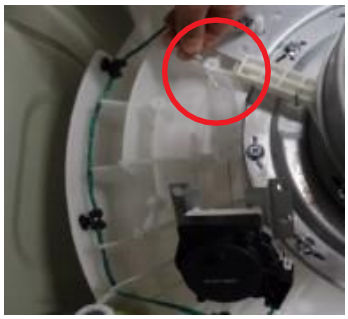
Part	Figure	Description
Sub and Main PCB		8. Remove 6 Connector (Red Circle) and disassembly 3 Screw (Blue Circle)
		9. Remove ASSY PCB MAIN from PANEL CONTROL
	 	10. Pull the knob encoder to separate it and then remove the 2 fixing screws.
	 	11. Separate wire connected to the touch module and 4 hooks
	 	12. Separate hooks and remove 1 screw. When reassembling the PCB, take care that you do not damage the control-panel fixing hook. After replacing the sub PCB, check the key operation.
Water Valve (WA71**)		1. After separating the control panel, separate the water valve housing. 2. Remove the 3 fixing screws.
		3. Remove the wire-harness and release the clamp connecting the hose. When releasing the clamps, take care that you do not tear the hoses

Part	Figure	Description
Door Assembly		1. After separating the control panel, remove 4 fixing screws holding the door lid T.C.
		2. Separate the door.
Top Cover Assembly / Door Switch		1. Separate the Assy Panel Control and Assy Main PCB. Reference disassembly in "Sub and Main PCB" table. Separation of the Wire Harness from other assemblies prevent stress and damage to the Wire Harness during Cover Top removal.
		2. Separate the 4 Wire Harness connectors from the Water Valves. 3. Separate the Pressure Sensor. Reference disassembly in "Sensor Pressure Switch" table. 4. Remove 2 screws from the Grounding Wire on the left and right side.
		5. Remove the 1 Wire Harness connector for the Door Lock Switch. 6. Remove the Cover Filter and remove 2 connector 7. Lift the Cover Guide Wire Separate the Back Cover and Wire Harness connector for the Drain Pump. Reference disassembly in "Drain Pump" table. Pull the Wire Harness wire for the Drain Pump through the Cover Guide hole.

Part	Figure	Description
Top Cover Assembly / Door Switch	 	8. Remove the 4 screws securing the Cover Top at the front and rear.
	 	9. Seperate the Cover Top by lifting up. 10. Flip the Cover Top upside down to access the Door Lock Switch. When flipping the Cover Top, secure the loose Wire Harness to prevent damage to the wires and connec-tors.
Sensor Pressure Switch		1. Separate the Assy Panel Control and Assy Main PCB. Reference disassembly in "Sub and Main PCB" table. 2. Separate the Wire Harness connector from the Pressure Sensor. ⚠ When releasing the clip, take care that you do not tear the hose.
		3. Tilt the Pressure Sensor up in the Cover Top housing. Remove the clamp while holding the clamp in place. ⚠ When releasing the clamp, be aware of its position and angle to prevent tear damage. Do not forcefully pull upward on the hose, as this may cause kinks, damage, or pull out from Tub Outer. Do not allow grease to enter the Pressure Sensor hose.

Part	Figure	Description
Drain-Pump		1. Remove the 4 screws in the Cover Back. Remove the Cover Back by pushing it up and pulling it backwards. 2. Separate the Wire Harness for the Drain Pump inside the frame on the right side. 3. Separate 2 clamps connecting each Drain Hose to the Drain Pump. ⚠ If difficult to remove the clamps, utilize pliers to assist in removal to prevent injury. When reattaching each Drain Hose, ensure the hoses are flushed with guides and the clamps are flushed with the hose chamfer edge.
Thermistor		1. Separate the Wire Harness connector for the Thermistor. Remove the 2 screws.
Clutch (continued)	 	1. Separate the Assy Panel Control, Cover Top, and remaining Wire Harness connections. Reference disassembly in each table for Wire Harness connector locations.. 2. Separate the Cover Top by lifting up. Reference disassembly in "Top Cover Assembly/Door Switch" table.
		3. Remove the 4 screws in the Cover Tub and separate the hooks.

Part	Figure	Description
Clutch (continued) * PulsatorModel	 	**Pulsator** 4. Insert a flathead screwdriver between Pulsator Cap and Pulsator against an internal tab. 5. Separate the Pulsator Cap by carefully pushing in and leveraging the flathead screwdriver. 6. Remove the Pulsator bolt with a 10mm wrench.
Clutch (continued) * AgiatorModel	 	**Agitator** 4. Insert a flathead screwdriver between Agitator Cap and Agitator against an internal tab. 5. Separate the Agitator Cap by carefully pushing in and leveraging the flathead screwdriver. 6. Remove the Agitator bolt with a 10mm extension wrench. ⚠ During disassembly and reassembly, be careful not to strip or crossthread the Clutch shaft the bolt threads into.
Clutch (continued)		7. Remove the Pulsator by lifting up. 8. Remove the Hex Nut attaching the Basket to the Clutch shaft utilizing a jig wrench. Release the Hex Nut by turning clockwise. Fasten by turning counterclockwise. ⚠ During disassembly and reassembly, be careful not to strip or crossthread the Hex Nut and Clutch shaft. If stripping exists or occurs, replace the affected part.
		9. Remove the Basket from the Tub Outer. Do not place on plastic Assy Balancer. ⚠ Utilize team lifts for heavy assembly parts, or modify repair steps, to prevent injury caused by solo lifting during Tub disassembly.

Part	Figure	Description
Clutch (continued)	 	10. Place the unit on a cushioned surface with Frame front facing up or forward. Do not place the unit Frame front down. ⚠ When placing the washer on the floor or a cushion, be careful to not damage the unit. 11. Remove the 4 bolts on the Support Saddle with a 10mm wrench. 12. Remove the DDM Motor Rotor bolt with a 17mm wrench. Carefully remove the Rotor.
	 	13. Remove the 5 DDM Motor Stator bolts with a 10mm wrench. ⚠ During disassembly and reassembly, be careful not to strip or crossthread the Stator bolt and Clutch threading. If stripping exists or occurs, replace the affected part. 14. Separate the housing and then remove the DDM motor. 15. Carefully remove the DDM Motor Stator.
		16. Separate the Wire Harness connector at the Drain Motor, if not already separated. Remove the 2 screws attaching the Drain Motor to the Tub Outer.
		17. Carefully separate the Pin Link on the Drain Motor from the Link Drain.

Part	Figure	Description
Clutch (continued)		18. Remove all screws fixing the Clutch to the Tub Outer. Carefully separate the Clutch by pulling back and up. ⚠ Do not lift the Clutch by the Lifter Arm.

5. TROUBLESHOOTING

5-1. TEST MODE

NO	Mode	How to enter
1	Smart Install	Standby → Set course "Self Clean" → Press Start/Pause for 7 seconds → Smart Installa
2	Automatic check mode	Smart Install → Press Start/Pause while displaying "AS"
3	Manual check mode	Smart Install → Press Spin while displaying "AS" Check device in turn when pressing Spin
4	S/W version check	Smart Install → Press Temp while displaying "AS"
5	Diagnostic code check	Smart Install → Press Soil while displaying "AS", "Cr". Turn jog dial along the direction of CW when displaying

Automatic Mode of Smart Install

- Automatically start all operation modes of Smart Install.

Manual Mode of Smart Install

- Under the condition of manual mode, every time when "Soils" is pressed, next step will be entered.
- Contents like washings, etc. are not allowed in the drum.

Operation mode	Description	Operation mode	Description
1	Carry out test for machine door locking	7	Carry out test for operation of drainage pump
2	Carry out test for drainage pump operation	8	Carry out test for operation of dehydration
3	Carry out test for operation of preparatory valve	9	Carry out test for operation of drying heater and drying fan
Co	Carry out test for operation of cold water valve	10	Carry out test for operation of machine door
Ho	Carry out test for operation of hot water valve	OK(Ot)	Automatic mode of Smart Install is completed normally
6	Carry out test for operation of water shot valve		
	Carry out test for operation of washing heater		
	Carry out test for operation of rinsing		

* Accessories not included in the product are not required to check and they can be skipped directly.

Identity of Smart Install completion

- After Smart Install is completed normally, 「OK(Ot)」 identity will display.
- If Smart Install is completed abnormally or Smart Install fails to work, 「nG」 identity will display.

Result Enquiry of Automatic Mode of Smart Install

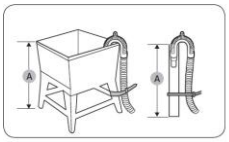
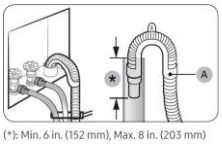
- Under the condition of appearance of 「AS」 identity, press "Temp+Start/Pause" button
- If automatic mode result is in normal condition, 「OK(Ot)」 identity will display. If automatic checking mode fails to complete normally or fails to execute, 「nG」 identity will appear.

Diagnosis Information Display Mode

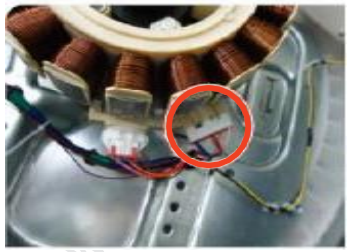
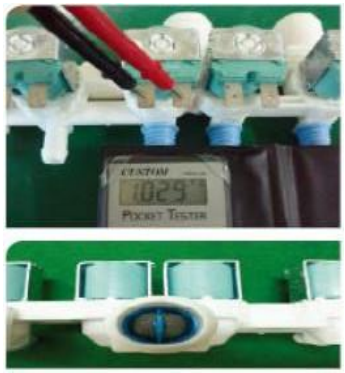
- Under the condition of appearance of 「AS」 identity, if the first button on the right at the bottom is pressed, 「CR」 identity will appear and diagnosis information display mode is entered.
- Under the condition of appearance of 「CR」 identity , if turn the jog dial control switch clockwise, diagnosis codes generated before will display 7 digits at most.

5-2. ERROR CODE & ACTION

Code	Meaning
1C	The Water Level sensor is not working properly. • Turn off the washer, unplug it, wait 30 seconds, and then plug the washer in again. If the information code remains, contact a Samsung customer service center. **NOTE** If the washer displays "1C", the washer will automatically drain for 3 minutes. During this time, the Power button is inoperative.
3C	Check the motor for operation. • Try restarting the cycle. • If the problem continues, call for service.
4C	Water is not supplied. • Make sure the water taps are open. • Make sure the water hoses are not clogged. • Make sure the water taps are not frozen. • Make sure the washing machine is operating with sufficient water pressure. • Make sure that the cold water tap and the hot water tap are properly connected. • Clean the mesh filter as it may be clogged. **NOTE** If the washer displays "4C", the washer will automatically drain for 3 minutes. During this time, the Power button is inoperative.
4C2	Make sure the cold water supply hose is firmly connected to the cold water tap. If it is connected to the hot water tap, laundry may be damaged when some cycles are run.
5C	Water is not draining. • Make sure the drain hose is not frozen or clogged. • Make sure the drain hose is positioned correctly, depending on the connection type. • Clean the mesh debris filter as it may be clogged. • Make sure the drain hose is not kinked between the unit and drain system. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
9C1	The electronic control needs to be checked (Over Voltage Error). • Check if power is supplied properly. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
9C2	Low voltage detected. • Check if the power cord is plugged in. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
AC6	Inverter Communication problem. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
dC	Operating the washer with the door open. • Make sure the door is properly closed. • Make sure laundry is not caught in the door. • Make sure no debris build up is in the door lock tray. Power down and unplug the unit. Clean the debris with a damp, soft cloth.

Code	Meaning
HC	**High temperature heating check.** • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
LC	**Check the drain hose.** • Make sure the end of the drain hose is positioned correctly.  **To a Laundry Tub or Drain Pipe** 1. Check the **height (A)** of your drain system and make sure the minimum and maximum heights shown below are met. Minimum: 39 in. (99 cm) Maximum: 96 in. (245 cm) NOTE  (*): Min. 6 in. (152 mm), Max. 8 in. (203 mm) 3. Route the drain hose to the drain system. ⚠ CAUTION • If using a standpipe, make sure the standpipe and drain hose connection is not airtight. • If using a standpipe, make sure the drain hose is inserted at least 6 in. (152 mm) but no more than 8 in. (203 mm) into the standpipe. 4. Secure the drain hose with cable ties. • Make sure the drain hose is not clogged. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center. **NOTE** When the washer displays "LC", the washer do draining for 3 minutes. During this time, the Power button is inoperative.
OC	**Water overflowed.** • Restart after spinning. • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
PC	**When position of the clutch can't be detected.** • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
PC1	**After position of the clutch is detected, if the signal from the clutch hall is incorrect.** • Turn off the washer, unplug it, wait one minute, and then plug the washer in again. If the information code remains, contact a Samsung customer service center.
Ub	**Spinning does not work.** • Make sure laundry is spread out evenly. • Make sure the washing machine is on a flat, stable surface. • Make sure the unit is level or pause the washer and open the lid and spread the laundry evenly. • Redistribute the load. If only one item of clothing needs washing, such as a bathrobe or pair of jeans, the final spin result might be unsatisfactory, and a "Ub" check message will appear in the display
Ur	**Display for additional rinsing.** • Show additional rinsing in sensing unbalance. • Method of releasing the display. • Any key input.
8C	**Check the MEMS sensor.** • Power the washer off. Wait 2-3 minutes, power the washer on, and then try again. • If the problem continues, call for service.

5-3. ERROR CODE & CORRECTIVE ACTION

Code Type	Check Code	Countermeasure	Troubleshooting Procedure	Measurement Photo
Water Level Sensor	1C	• Check if the water level sensor is defective. • Check if the water level sensor terminal is properly connected. • Check if the water level sensor hose is broken. • Check if the water level This may occur when the main PCB is defective.	• Check the water level sensor terminal connections. • Check the part code of the water level sensor, because if an incorrect part is used, an abnormal operation may occur. (Abnormal operation) • If the water level sensor is defective, replace it. • If no problems were found for all of the procedures above, replace the PBA.	► Check the water level sensor frequency. 1. Check it after the water level sensor and the connector are connected. Checking Part : Blue Color Wire Orange Color Wire 2. Frequency: Approx. 26.4 KHz without water (Min 25.9KHz) 
Washing Motor Defect	3C	• This may occur when the washing motor is defective. • Check if the washing Motor Rotor/Stator is defective or not. • This may occur when the main PCB is defective.	• Check the motor connector terminal connections. • Check if the Motor Cover Stator is damaged. • Check if the coil is broken due to moisture from any alien substance. • If the PBA control circuit is defective, replace the PBA.	► Check the motor Winding Coil 1. Plug out the connector and read resistances at any two of the three terminals on Motor : Should be 19.3Ω (at 25 oC) 
Water Supply Check	4C	• This may occur when the water supply valve is defective. • This may occur when the main PCB is defective. • This may occur due to frozen water.	• If the water supply valve is broken, replace the valve. • Check if the water supply is blocked due to an alien substance in the valve or check if the water is supplied to the machine. If a problem is found, take the appropriate countermeasure. • Check if the water supply is blocked due to the water being frozen. • If the PBA Relay malfunctions, replace the PBA.	1. Measure the resistance of the water supply valve. –Resistance : 0.9KΩ to 1.1KΩ between the terminals of the Water Supply Valve. 2. Check whether there is foreign material in the Water supply valve filter. 

Code Type	Check Code	Countermeasure	Troubleshooting Procedure	Measurement Photo
Drain Check	5C	• This may occur when the drain pump is defective. • This may occur due to frozen water. • Check if there is any alien substance inside the draining pump. • This may occur when the main PCB is defective.	• Check if there is any alien substance inside the draining pump motor. • Check the natural drain in the same manner. • Check if there are any incorrect connections or broken wires. • If the machine malfunctions intermittently when the wash tub water temperature is high, replace the pump. • If the motor stops due to the water being frozen in winter, remove the frozen water referring to the relevant repair procedures.	1. Check the drain pump resistance. (Resistance : 13.5 ~16.5 Ω) 
Communication Check	AC	• The signals between the Sub and main PBAs are not sensed. • Incorrect wire connections between the sub and main PBAs.	• Check the wire connections and terminal contacts between the sub and main PBAs. • Check for disconnected wires. • Check whether the sub PBA is short-circuited because of moisture. • If the main PBA's communication circuit is faulty, replace it.	-
Door Check	DC	• This may occur when the door switch is defective. • This may occur when the main PCB is defective.	• Check if a dE Check occurs during the boiling course. • As this Check occurs because the door is opened, close the door. • Since 120V power is connected, check if the power cord is disconnected or check the insulation status and repair it if necessary. • If the main PBA door detection circuit is defective, replace it. • Ensure door is closed all the way with no laundry caught in the door	1. Check the resistance for Reed SW (Checking Part : White-Green Wire) - Resistance: Approx 0.2Ω between the terminals of Reed SW.  2. Check the resistance for Motor (Checking Part : Black-Brown Wire) - Resistance: 33Ω to 46Ω between the terminals of Motor. 
	DC1 DC2	• The door lock switch unit Is not inserted. • The door lock switch unit Is damaged. • The wire is disconnected. • The door lock switch unit is defective. • This may occur due to a defect of the main PCB.	• Check whether the door lock switch unit is inserted. • Check whether the door lock switch unit is damaged. • Check the disconnection of the wire. • If the door lock switch unit is defective, replace it. • If the main PCB is defective, replace it.	3. Check the resistance for Lock/ Unlock Contact (Checking Part : Lock White-Red Wire Unlock White-Blue Wire) -Resistance: Resistance: Approx 0.2Ω between the terminals of Contact. Check the Door Lock/Unlock state.  <Lock> <Unlock>

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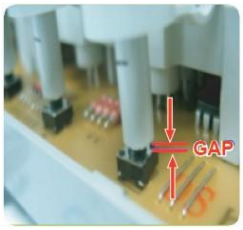
Switch Check (Main Relay Check)	BC2	• The Power button is continually pressed. • A button other than the Power button is continually pressed.	• Check whether either the Power switch or a tact switch is continually pressed. • Check whether the service PBA holding screws are fastened too tight. If they are fastened too tight, loosen them a little. • If the main PBA switching IC on/off Check has occurred, replace the main PBA. • The "E2" Check occurs if the main relay connections are incorrect. Check the connections. If there is no Check in the connections, replace the main PBA.	► Check the contact between the control panel buttons and their corresponding tact switch. –There must be a gap between a control panel button and its corresponding micro switch. Otherwise, an Check occurs after approx. 30 seconds has passed. 
Water Leakage Check	LC LC1	• This may occur when an alien substance is in the DV Case. • This may occur due to a wire, coins, etc. defect of the product's internal hose or from the part assembly.	• Since this occurs when an alien substance is in the Draining Bellows, for natural draining, remove the alien substance. • If the drain motor is defective, replace the motor. • Check if the water leaks from the tub connection part.	   ► Check if there is any alien substance in the Draining Bellows. Check if there is any alien substance such as underwear This may occur due to a wire, coins, etc.
Unbalance Check	UB	• This may occur due to the laundry being unevenly distributed.	• Check the laundry type and check if the laundry load is unbalanced. –Make sure to check if there is any laundry present that absorbs a lot of water even if its volume is small and explain the problem comprehensively, if necessary.	–
Mems PBA Detected	8C 8C1 8C2	• This may occur due to disconnection. • This may occur when the Mems PBA is defective.	• Check wire connections. • Replace the Mems PBA. • Replace Mems PBA because of the main PBA wire disconnection Check or PBA silver nano part malfunction.	–

Code Type	Check Code	Countermeasure	Troubleshooting Procedure	Measurement Photo
Overflow Check	OC	• This may occur when the water level sensor is defective. • This may occur when water is supplied continuously due to freezing or foreign materials in the water supply valve.	• The water level sensor is replaced.	-
Heater Check	HC HC1	• Disconnection wire • Heater fault • Wash-thermistor fault	• Check for connection between wire and heater. • If wash heater is faulty, replace it. - Refer the TYPE1 • If it is not problem in heater, replace wash thermistor - Refer the TYPE2	-
Temperature Sensor Check	TC1 TC2 TC3 TC4	• Washing temperature sensor fault • Dry temperature sensor fault • Faulty and incorrect connections of the dry condensing sensor • Main PCB fault • Freezing in the winter season • IPM temperature is abnormally high.	• Check the connections for the washing heater temperature sensor connector. • If the washing heater temperature sensor has a functional error, replace it. -A TC1 check occurs. • Check the connections for the dry heater temperature sensor connector. • If the dry heater temperature sensor has a functional check, replace it. -A TC2 check occurs.	-
Power Check	UC (9C1/9C2)	• Power condition fault. • An check occurs when under or over voltage is supplied. • plug receptacle is used • Main PBA fault (sometimes)	• Check the consumer's power conditions. : Make sure to check the operating voltage. • Connect a tester to the internal power terminals during the Boil or Dry operations and observe the washing machine's operation carefully. : Check the voltages. (A check occurs when under or over voltage is supplied.) : Check whether a plug receptacle is used. When the connecting wire is 1m, a momentary low voltage may drop up to 10V • Main PBA fault (sometimes)	-