WASHING MACHINE SERVICE MANUAL

⚠️ CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE PROBLEMS CORRECTLY BEFORE SERVICING THE UNIT.

MODEL: WM3677HW / WD-12270RD
<table>
<thead>
<tr>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SPECIFICATIONS .............................................................................3</td>
</tr>
<tr>
<td>2. FEATURES &amp; TECHNICAL EXPLANATION .............................................4</td>
</tr>
<tr>
<td>3. PARTS IDENTIFICATION ...................................................................7</td>
</tr>
<tr>
<td>4. INSTALLATION &amp; TEST ...................................................................8</td>
</tr>
<tr>
<td>5. WIRING DIAGRAM/PROGRAM CHART ....................................................11</td>
</tr>
<tr>
<td>6. OPERATION .....................................................................................12</td>
</tr>
<tr>
<td>7. TROUBLESHOOTING .........................................................................14</td>
</tr>
<tr>
<td>7-1. BEFORE PERFORMING SERVICE ..................................................14</td>
</tr>
<tr>
<td>7-2. QC TEST MODE .......................................................................14</td>
</tr>
<tr>
<td>7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY .........................14</td>
</tr>
<tr>
<td>7-4. ERROR DISPLAY ......................................................................15</td>
</tr>
<tr>
<td>8. ERROR DIAGNOSIS AND CHECK LIST ...............................................17</td>
</tr>
<tr>
<td>8-1. DIAGNOSIS AND SOLUTION FOR ABNORMAL OPERATION ................17</td>
</tr>
<tr>
<td>8-2. FAULT DIAGNOSIS AND TROUBLESHOOTING ................................20</td>
</tr>
<tr>
<td>9. DISASSEMBLY INSTRUCTIONS ..........................................................31</td>
</tr>
<tr>
<td>10. EXPLODED VIEW ...........................................................................40</td>
</tr>
<tr>
<td>10-1. CABINET &amp; CONTROL PANEL ASSEMBLY ..................................40</td>
</tr>
<tr>
<td>10-2. DRUM &amp; TUB ASSEMBLY .......................................................41</td>
</tr>
<tr>
<td>10-3. DISPENSER ASSEMBLY ............................................................42</td>
</tr>
<tr>
<td>10-4. DRYER ..................................................................................43</td>
</tr>
</tbody>
</table>
# 1. SPECIFICATIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>WM3677HW</th>
<th>WD-12270RD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COLOR</strong></td>
<td>BLUE WHITE</td>
<td></td>
</tr>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td>AC 120 V, 60 Hz</td>
<td>AC 127 V, 60 Hz</td>
</tr>
<tr>
<td><strong>PRODUCT WEIGHT</strong></td>
<td>201 lbs. (91 kg)</td>
<td></td>
</tr>
<tr>
<td><strong>ELECTRIC POWER CONSUMPTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASHING</td>
<td>280 W</td>
<td></td>
</tr>
<tr>
<td>DRAIN MOTOR</td>
<td>80 W</td>
<td></td>
</tr>
<tr>
<td>FAN MOTOR</td>
<td>25 W</td>
<td></td>
</tr>
<tr>
<td>DRY HEATER</td>
<td>1200 W</td>
<td></td>
</tr>
<tr>
<td>WASH HEATER</td>
<td>1000 W</td>
<td></td>
</tr>
<tr>
<td><strong>REVOLUTION SPEED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASH</td>
<td>42 rpm</td>
<td></td>
</tr>
<tr>
<td>SPIN</td>
<td>0-1100 rpm</td>
<td></td>
</tr>
<tr>
<td><strong>CYCLES</strong></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td><strong>WASH/RINSE TEMPERATURES</strong></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>SPIN SPEEDS</strong></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>OPTIONS</strong></td>
<td>Prewash, Stain Cycle, Quick Cycle, Extra Rinse, Rinse+Spin</td>
<td></td>
</tr>
<tr>
<td><strong>WASH/DRY PROGRAM</strong></td>
<td>Sanitary, Cotton/Towels, Normal, Perm Press, Speed Wash</td>
<td></td>
</tr>
<tr>
<td><strong>CUSTOM PROGRAM</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
<tr>
<td><strong>WATER CIRCULATION</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
<tr>
<td><strong>OPERATIONAL WATER PRESSURE</strong></td>
<td>4.5-145 psi (30-1000 kPa)</td>
<td></td>
</tr>
<tr>
<td><strong>CONTROL TYPE</strong></td>
<td>Electronic</td>
<td></td>
</tr>
<tr>
<td><strong>WASH CAPACITY</strong></td>
<td>3.22 cu. ft (3.72 cu. ft. IEC)</td>
<td>12 kg</td>
</tr>
<tr>
<td><strong>DRY CAPACITY</strong></td>
<td>Max. 11 lbs (5 kg)</td>
<td>8 kg</td>
</tr>
<tr>
<td><strong>DIMENSIONS</strong></td>
<td>27” (W) x 29(\frac{3}{4}”)(D) x 38(\frac{1}{16}”)(H), 50(\frac{5}{16}”)(D, door open)</td>
<td>686mm(W)x767mm(D)x982mm(H), 1291mm(D) (D, door open)</td>
</tr>
<tr>
<td><strong>DELAY WASH</strong></td>
<td>up to 12 hours</td>
<td></td>
</tr>
<tr>
<td><strong>DOOR SWITCH TYPE</strong></td>
<td>PTC + Solenoid</td>
<td></td>
</tr>
<tr>
<td><strong>WATER LEVEL</strong></td>
<td>10 steps (by sensor)</td>
<td></td>
</tr>
<tr>
<td><strong>LAUNDRY LOAD SENSING</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
<tr>
<td><strong>ERROR DIAGNOSIS</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
<tr>
<td><strong>AUTO POWER OFF</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
<tr>
<td><strong>CHILD LOCK</strong></td>
<td>Incorporated</td>
<td></td>
</tr>
</tbody>
</table>
2. FEATURES & TECHNICAL EXPLANATION

2-1. FEATURES

■ **Direct Drive System**
The advanced Brushless DC motor directly drives the drum without belt and pulley.

■ **Tilted Drum and Extra Large Door Opening**
The tilted drum and extra large door opening make it possible to load and unload easily.

■ **Water Circulation**
Spray detergent solution and water onto the load repeatedly. Clothes are soaked more quickly and thoroughly during the wash cycle. Detergent suds are eliminated more easily by the water shower during rinse cycle. The water circulation system uses both water and detergent more efficiently.

■ **RollerJets**
The washing ball enhances wash performance and reduces damage to clothing. The jets spray and help tumble clothes to enhance washing performance while maintaining fabric care.

■ **Automatic Wash Load Detection**
Automatically detects the load and optimizes the washing time.

■ **Built-in Heater**
The internal heater automatically heats the water to the optimum temperature on selected cycles.

■ **Child Lock**
The Child lock feature prevents children from pressing any buttons to change the settings during operation.
2-2. NEURO FUZZY WASHING TIME OPTIMIZATION

To get the best washing performance, optimal time is determined by the water temperature, the selected washing temperature, and the size of the load.

2-3. WATER LEVEL CONTROL

- This model incorporates a pressure sensor which can sense the water level in the tub.
- The water supply is stopped when the water level reaches the preset level, the washing program then proceeds.
- Spinning does not proceed until the water in the tub drains to a certain level.

2-4. DOOR CONTROL

- The door can be opened by pulling the door handle whenever washer is not in operation.
- When the cycle is completed, the DOOR LOCKED light will turn off.
- If a power failure has occurred while in operation, the door will unlock after 5 minutes.
- Clicking sounds can be heard when the door is locked/unlocked.
2-5. THE DOOR CAN NOT BE OPENED

- While program is operating
- When a power failed and power plug is taken out in operation
- While Door Lock lights turn on.
- While the motor is in the process of intertial rotating, through the operation is paused.

2-6. DOOR LOCKED LAMP LIGHTS

- When the frequency of water level is lower than 22.9 kHz
  (It can be canceled when the frequency is more than 23.8 kHz)
- When the temperature inside the tub is higher than 45 °C and water level is not 25.5 kHz
  (It can be canceled when the water level is 25.5 kHz or the temperature inside the tub is lower than 40 °C)

2-7. CHILD LOCK

- Use this option to prevent unwanted use of the washer. Press and hold PRE WASH button for 3 seconds to lock/unlock control.
- When Child lock is set, CHILD LOCK lights and all buttons are disabled except the Power button. You can lock the washer while it is operating.

2-8. WATER CIRCULATION

- When Washing and Rinsing function of shower at the upper part of Gasket.
- When Washing, it continuously operates for 3 minutes and intermittently.
- When Rinsing, it continuously operates after completion of water supply.
3. PARTS IDENTIFICATION

- Shipping Bolts
- Power Plug
  - If the supply cord is damaged, it must be replaced by the manufacturer or its authorized service technician in order to avoid a hazard.

- Drain Hose
- Dispenser
- Door
- Lower Cover Cap
- Drain Plug
- Drain Pump Filter
- Adjustable Feet
- Control Panel
- Water Circulation Nozzle
- Back of Washer
- Cold Water Inlet
- Air Vent for Safety
- Hot Water Inlet

■ ACCESSORIES

- Hot/Cold (1 each) Hose
- Wrench
- Tie strap (Option) to secure drain hose to standpipe, inlet hose, or laundry tub
4. INSTALLATION & TEST

1. Before servicing, ask the customer what the trouble is.
2. Check the setup (power supply is 120 V AC, remove the transit bolts...).
3. Check with the troubleshooting guide.
4. Plan your service method by referring to the disassembly instructions.
5. Service the unit.
6. After servicing, operate the appliance to see whether it functions correctly.

### STANDARD INSTALLATION
The appliance should be installed as follows:

<table>
<thead>
<tr>
<th>REMOVE THE SHIPPING BOLTS</th>
<th>INSTALL THE APPLIANCE ON A FLAT AND FIRM SURFACE</th>
<th>ADJUST THE LEVELING</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Remove the 4 shipping bolts with the supplied wrench. ✽ Do first lower side to remove easily.</td>
<td>![Diagram of appliance on a flat surface]</td>
<td>![Diagram of leveling appliance]</td>
</tr>
<tr>
<td>- Keep the shipping bolts and spanner for future use.</td>
<td>![Diagram of appliance on a flat surface]</td>
<td>![Diagram of leveling appliance]</td>
</tr>
<tr>
<td>- Insert the 4 caps (provided) into the hole.</td>
<td>![Diagram of appliance on a flat surface]</td>
<td>![Diagram of leveling appliance]</td>
</tr>
</tbody>
</table>

- Turn the leveling feet to adjust the appliance.
- Turn clockwise to raise; counterclockwise to lower.
HOW TO CONNECT THE INLET HOSE

- Verify that the rubber washer is inside of the valve connector.
- Tighten the inlet hose securely to prevent leaks.

CONNECT THE DRAIN HOSE

- Make sure that the hose is not twisted.
- Avoid submerging the end of the hose.
※ The end of the drain hose should be placed less than 96” from the floor.

CONNECT POWER PLUG

- Connect the power plug to the wall outlet.
- Avoid connecting several electric devices, as doing so may cause a fire.
TEST OPERATION

1. Preparation for washing.
   - Connect the power plug to the outlet.
   - Connect the inlet hoses.

2. Press the POWER button.

3. Press the Start/Pause button.
   - Listen for a click to determine if the door has locked.

4. Check the water supply.
   - Check if water is supplied through the detergent dispenser.

5. Check the automatic reverse rotation.
   - Check if the drum rotates clockwise and counterclockwise.

6. Check the water heating function.
   - Press the WASH/RINSE button and the present temperature will be displayed.

7. Check the drain and spin functions.
   - Power off and the power on.
   - Press the SPIN SPEED button.
   - Press the START/PAUSE button.
   - Check the spin and drain functions.

8. Press the START/PAUSE button.
   - Listen for a click to determine if the door is unlocking.

9. Water removal
   - If SVC is needed during check, remove the remaining water by pulling out the hose cap.
5. OPERATION

• POWER button
  - Use this button to turn the power On/Off.

• CYCLE SELECTOR knob
  - Rotate the Cycle selector knob to select the cycle designed for different types of fabric and soil levels.

• START/PAUSE button
  - Use this button to Start/Stop the washer.

• EST. TIME REMAINING
  - This display shows:
    a) the estimated time remaining in the cycle when operating.
    b) an error code when an error has been detected.

• CHILD LOCK
  - Use this option to prevent the washer from being turned on accidentally.
  - When Child lock is set, buttons are disabled and you can lock the washer with a key.

• CUSTOM PROGRAM button
  - Allows you to store a customized wash cycle for future use.
  - To create a Custom Program:
    1) Select a cycle.
    2) Select the other desired Wash/Rinse Temp., Spin Speed, Soil Level.
    3) Select the desired Options.
    4) Press and hold the Custom Program button for 3 seconds (2 beep sounds).
      The Custom Program is now stored for future use.
  - To reuse the program, select Custom Program and press Start/Pause.
**LOCK**

Prevent unwanted use of the washer. Press and hold the WASH button for 3 seconds to set. CHILD LOCK lights and all buttons are turned off except the Power button. You cannot use the washer while it is operating.

**DELAY WASH button**

- Allows the start of any cycle to be delayed for 1~12 hours.

**STATUS INDICATOR**

- These lights show which portion of the cycle the washer is operating.

**DOOR LOCKED lamp**

- Lights whenever the door of the washer is locked.
- The door can be unlocked by pressing the Start/Pause button to stop the washer.

**DRY SELECTOR**

- Dry program can be selected by pressing the DRY button.
- By pressing the DRY button, [NORMAL ➔ MORE ➔ 30/60/90/120 ➔ LOW TEMP. ➔ LESS] can be selected.

**OPTION button**

- Prewash: Use this option for loads that need pretreatment. It adds 16 minutes prewash and drain.
- Rinse+Spin: Use this option to rinse and then spin.
- Extra Rinse: This option provides an additional rinse cycle.
- Stain Cycle: Adds time to the wash and rinse cycles for better stain removal. Automatically provides a rinse.
- Quick Cycle: The Quick cycle offers a quick cycle time.

**WASH/RINSE, SPIN SPEED, SOIL LEVEL button**

- Select a water temperature based on the type of load you are washing.
- To change the spin speed, press the Spin Speed button repeatedly to cycle through available options.
- To change the soil level, press the Soil Level button repeatedly until the desired setting is on.
7. TROUBLESHOOTING

7-1. BEFORE PERFORMING SERVICE

- Be careful of electric shock when disconnecting parts while troubleshooting.
- The voltage of each terminal is 120 V AC and DC when the unit is plugged in.

7-2. QC TEST MODE.

The washer must be empty and the controls must be in the off state.

1. Press the SPIN SPEED and SOIL LEVEL buttons simultaneously.
2. Press the Power button, while the above condition. Then buzzer will sound twice.
3. Press the Start/Pause button repeatedly to cycle through the test modes.

<table>
<thead>
<tr>
<th>Number of times the Start/Pause button is pressed</th>
<th>Check Point</th>
<th>Display Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Turns on all lamps and locks the door.</td>
<td>(F:83)</td>
</tr>
<tr>
<td>1 time</td>
<td>Tumble clockwise.</td>
<td>rpm (40–50)</td>
</tr>
<tr>
<td>2 times</td>
<td>Low speed Spin.</td>
<td>rpm</td>
</tr>
<tr>
<td>3 times</td>
<td>High speed Spin.</td>
<td>rpm</td>
</tr>
<tr>
<td>4 times</td>
<td>Inlet valve for prewash turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>5 times</td>
<td>Inlet valve for main wash turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>6 times</td>
<td>Inlet valve for hot water turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>7 times</td>
<td>Inlet valve for bleach turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>8 times</td>
<td>Inlet valve for dry turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>9 times</td>
<td>Tumble counterclockwise.</td>
<td>rpm (40–50)</td>
</tr>
<tr>
<td>10 times</td>
<td>Heater turns on for 3 sec.</td>
<td>Water temperature</td>
</tr>
<tr>
<td>11 times</td>
<td>Circulation pump turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>12 times</td>
<td>Drain pump turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>13 times</td>
<td>Dry fan &amp; motor turns on.</td>
<td>Water level frequency (25–65)</td>
</tr>
<tr>
<td>14 times</td>
<td>Power off and unlock the door.</td>
<td>Turn off all lamps.</td>
</tr>
</tbody>
</table>

7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

* Press the SPIN SPEED and SOIL LEVEL button simultaneously.

- The digits indicate the water level frequency ( x.1 kHz ).
- So, for example a display indicating 241: a Water level frequency of 241 x.1 kHz
  \[
  = 24.1 \text{ kHz}
  \]
7-4. ERROR DISPLAY

- If you press the START/PAUSE button when an error is displayed, any error except \( \text{FE} \) will disappear and the machine will go into the pause status.
- In case of \( \text{FE} \), if the error is not resolved within 20 sec., or the in case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error code will blink. But in the case of \( \text{FE} \), power will not be turned off.

<table>
<thead>
<tr>
<th>ERROR</th>
<th>SYMPTOM</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 WATER INLET ERROR</td>
<td>![IE]</td>
<td>- Correct water level (246) is not reached within 8 minutes after water is supplied or it does not reach the preset water level within 25 minutes.</td>
</tr>
</tbody>
</table>
| 2 IMBALANCE ERROR | ![UE] | - The load is too small.  
- The appliance is tilted.  
- Laundry is gathered to one side.  
- Non distributable things are put into the drum. |
| 3 DRAIN ERROR | ![DE] | - Not fully drained within 10 minutes. |
| 4 OVER FLOW ERROR | ![FE] | - Water is overflowing (water level frequency is over 213).  
* If ![FE] is displayed, the drain pump will operate to drain the water automatically. |
| 5 PRESSURE SENSOR ERROR | ![PE] | - The SENSOR SWITCH ASSEMBLY is out of order. |
| 6 DOOR OPEN ERROR | ![DE] | - Door not all the way closed.  
- Loose electrical connections at Door switch and PWB Assembly.  
- The DOOR SWITCH ASSEMBLY is out of order. |
<p>| 7 HEATING ERROR | ![BE] | - The THERMISTOR is out order. |</p>
<table>
<thead>
<tr>
<th>ERROR</th>
<th>SYMPTOM</th>
<th>CAUSE</th>
</tr>
</thead>
</table>
| OVER CURRENT ERROR    | ![Symptom Image](image1) | • MAIN PWB ASSEMBLY is out of order.  
• Winding in the STATOR ASSEMBLY is short-circuited. |
| LOCKED MOTOR ERROR     | ![Symptom Image](image2) | • The connector (3-pin, male, white) in the MOTOR HARNESS is not connected to the connector (3-pin, female, white) of STATOR ASSEMBLY.  
• The electric contact between the connectors (3-pin, male, white) in the MOTOR HARNESS and 4-pin, female, white connector in the MAIN PWB ASSEMBLY is bad or unstable.  
• The MOTOR HARNESS between the STATOR ASSEMBLY and MAIN PWB ASSEMBLY is cut (open circuited).  
• The hall sensor is out of order/defective. |
| BALL SENSOR ERROR      | ![Symptom Image](image3) | • Loose Ball Sensor Connector.  
• Ball Sensor is out of order.  
※ Displayed only when the START/PAUSE button is first pressed in the QC Test Mode. |
| EEPROM ERROR           | ![Symptom Image](image4) | • EEPROM is out of order.  
※ Displayed only when the START/PAUSE button is first pressed in the QC Test Mode. |
| POWER FAILURE          | ![Symptom Image](image5) | • The washer experienced a power failure. |
| DRY HEATER ERROR       | ![Symptom Image](image6) | • The Dry Heater is out of order.  
- Replace the Dry Heater  
• The connector of the Dry Heater is not connected properly to the connector in the main PWB ASSEMBLY.  
- Reconnect or repair the connector.  
• The Dry Fan Motor is out of order.  
-Replace the fan motor. |
# 8. ERROR DIAGNOSIS AND CHECK LIST

## 8-1. DIAGNOSIS AND SOLUTION FOR ABNORMAL OPERATION

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>GUIDE FOR SERVICE CALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power</td>
<td><img src="power-connector.png" alt="" /> Is the power plug connected firmly to 120 V AC outlet?</td>
</tr>
<tr>
<td></td>
<td><img src="yes.png" alt="YES" /> Power failure? or Breaker opened? Is the outlet controlled by a switch?</td>
</tr>
<tr>
<td></td>
<td><img src="no.png" alt="NO" /> Visit to service.</td>
</tr>
<tr>
<td>Water inlet trouble</td>
<td><img src="display-screen.png" alt="" /> Is E displayed?</td>
</tr>
<tr>
<td></td>
<td><img src="yes.png" alt="YES" /> Is the tap opened?</td>
</tr>
<tr>
<td></td>
<td><img src="no.png" alt="NO" /> Is the tap frozen?</td>
</tr>
<tr>
<td></td>
<td><img src="no.png" alt="NO" /> Is the water supply shut-off?</td>
</tr>
<tr>
<td></td>
<td><img src="yes.png" alt="YES" /> Is filter in the inlet valve clogged with foreign material?</td>
</tr>
<tr>
<td></td>
<td><img src="no.png" alt="NO" /> Visit to service.</td>
</tr>
<tr>
<td>SYMPTOM</td>
<td>GUIDE FOR SERVICE CALL</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Door error</td>
<td></td>
</tr>
<tr>
<td><strong>de</strong></td>
<td>Started with door opened? <strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Was the load too large? <strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Avoid overloading.</td>
</tr>
<tr>
<td></td>
<td>Clicking sound is heard once or twice, when the START/PAUSE button is pressed to start the cycle? <strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Visit to service.</strong></td>
</tr>
<tr>
<td></td>
<td>Check if the door switch is OK.</td>
</tr>
<tr>
<td>Drain trouble</td>
<td></td>
</tr>
<tr>
<td><strong>de</strong></td>
<td>Is <strong>de</strong> displayed? <strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Clean up the filter.</strong></td>
</tr>
<tr>
<td></td>
<td>Is the drain pump filter clogged with foreign material such as pins, coins, etc? <strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>Is the drain hose frozen, kinked, or crushed? <strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Visit to service.</strong></td>
</tr>
<tr>
<td>SYMPTOM</td>
<td>GUIDE FOR SERVICE CALL</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Suds overflow from the appliance. (In this condition, wash and spin do not operate normally)</td>
<td>Is a low-sudsing detergent used?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Is the proper amount of detergent used as recommended?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Recommend to reduce the amount of detergent.</td>
</tr>
<tr>
<td></td>
<td>This appliance has an automatic suds sensing function which prevents overflow.</td>
</tr>
<tr>
<td></td>
<td>When excessive suds are sensed, the suds removing implementations such as drain, water input, pause will operate, without rotating the drum.</td>
</tr>
</tbody>
</table>

Liquid laundry products do not flow in.

<table>
<thead>
<tr>
<th>Guide for Service Call</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is liquid laundry product put in the correct compartment of the dispenser?</td>
<td>YES</td>
</tr>
<tr>
<td>Is the cap clogged?</td>
<td>YES</td>
</tr>
<tr>
<td>Explain proper use of liquid laundry products.</td>
<td>Clean the compartment.</td>
</tr>
</tbody>
</table>

(1) Liquid chlorine Bleach Compartment
(2) Liquid fabric Softener Compartment
(3) Prewash Compartment
(4) Main Wash Compartment

Visit to service.
8-2. FAULT DIAGNOSIS AND TROUBLESHOOTING

1. Be careful of electric shock if disconnecting parts while troubleshooting.
2. First of all, check the connection of each electrical terminal with the wiring diagram.
3. If you replace the MAIN PWB ASSEMBLY, reinsert the connectors correctly.

**CAUTION**

Is the supplied voltage 120 V AC?

- **YES**
  - Is the voltage between the 2 FILTER ASSEMBLY connectors 120 V AC?
    - **YES**
      - Is the LED (1) on?
        - **YES**
          - Are the connectors (2) on the PWB loose?
            - **YES**
              - Replace the MAIN PWB ASSEMBLY.
            - **NO**
              - Is wire of the DISPLAY PWB ASSEMBLY broken?
                - **YES**
                  - Replace DISPLAY PWB ASSEMBLY or repair wire.
                - **NO**
                  - Replace the MAIN PWB ASSEMBLY.
        - **NO**
          - Reconnect.
    - **NO**
      - Replace the FILTER ASSEMBLY (CIRC).
  - **NO**
    - Check the fuse or reset the circuit breaker.

Is the supplied voltage 120 V AC?
VIBRATION & NOISE IN SPIN

Have all the transit bolts and base packing been removed?  

NO  Remove the transit bolts and Base packing.

YES

Is the washer installed on a solidly constructed floor?  

NO  Move the washer or reinforce the floor.

YES

Check if the washer is perfectly level as follows:

Check the leveling of the washer with a Level and check that the washer is stable.

Put an unbalance part (rubber) inside of drum and start QC test mode and run in high spin (Refer to section 7-2). When the machine is spinning in high speed, verify that it is stable.

If you do not have the unbalance part, put 4.5 to 6.5 lbs (2 to 3 kg) of clothing. Once loaded, press power, Rinse+Spin and the start/pause button in sequence. When the machine is spinning in high speed, verify that it is stable.

YES

If it is not stable, adjust feet accordingly. After the washer is level, tighten the lock nuts up against of the base of the washer. All lock nuts must be tightened.
If it still has severe vibration and noise, regulate a specific spin speed that generates excessive vibration and noise as follows:

1) Put an unbalance part (rubber) inside of the drum.
2) Start the QC test mode (Refer to section 7-2).
3) Press Delay Wash button, then ‘iculture’ is displayed.
4) Press the Spin Speed button repeatedly to select Extra High.
5) Press the Quick Cycle button, the spin speed is displayed.
6) Press the Start/Pause button.
7) Press the Dry button repeatedly to set spin speed (600, 900, 1020, 1120 rpm) and check if there is vibration and noise.
8) If there is no vibration and noise, increase the spin speed by pressing Dry button.
9) If there is vibration and noise, rotate the Cycle selector knob clockwise to reduce the Spin Speed (reduce by 50 and 100 rpm). In case of 600 rpm, it can not reduce the spin speed.
10) If vibration and noise are reduced, press the Quick Cycle button to store (2 beep sounds).

* If you want to return to factory default spin speed setting, repeat above steps except step 9).
**NO WATER SUPPLY**

Is water supply shut-off?

- **NO**
  - Is the tap opened?
    - **NO**
      - Open the tap.
    - **YES**
      - When you press both SPIN SPEED button and SOIL LEVEL button simultaneously, is the water level frequency below 246?
      - **YES**
        - Check the AIR CHAMBER and the tube (clogged).
      - **NO**
        - Is the inlet valve filter clogged?
          - **YES**
            - Clean the filter.
          - **NO**
            - Is resistance between each terminal of INLET VALVE ASSEMBLY 0.8-1.2 kΩ?
              - **YES**
                - Verify the voltage of the inlet valve connector is 120 V AC.
                  - (Refer to 7-2 QC TEST MODE)
              - **NO**
                - Replace the INLET VALVE ASSEMBLY.

**DETERGENT DOES NOT FLOW IN**

Is water supplied?

- **NO**
  - Refer to NO WATER SUPPLY.
- **YES**
  - Are receptacles correctly connected to the terminals of the INLET VALVE ASSEMBLY?
    - **NO**
      - Check the wiring.
    - **YES**
      - Has detergent been put in the correct compartment of the dispenser?
        - **NO**
          - Put the detergent in the correct place.
        - **YES**
          - Is the detergent caked or hardened?
            - **YES**
              - Clean the dispenser.
**LIQUID DETERGENT/SOFTENER/BLEACH DOES NOT FLOW IN**

- **Is water supplied?**
  - **YES**
  - **NO**
    - Refer to "NO WATER SUPPLY"

- **Are the plugs correctly connected to the terminals of the INLET VALVE ASSEMBLY?**
  - **YES**
  - **NO**
    - Check the wiring on the dispenser.

- **Is liquid detergent/softener/bleach put in the correct compartment of the drawer?**
  - **YES**
  - **NO**
    - Put it in the correct compartment.

- **Is the liquid detergent/softener/bleach cap clogged?**
  - **YES**
  - **NO**
    - Clean the Cap and Container.

**ABNORMAL SOUND**

- **Is the motor bolt loosened?**
  - **YES**
  - **NO**
    - Secure the bolt.

- **Is there friction noise coming from the motor?**
  - **YES**
  - **NO**
    - Replace the STATOR ASSEMBLY or ROTOR ASSEMBLY.
HEATING WITHOUT WATER

When pressing SPIN SPEED and SOIL LEVEL at the same time after draining, is the water level frequency 255?

When pressing SPIN SPEED and SOIL LEVEL buttons at the same time while washing, is the water level frequency between 230 - 243?

NO → Replace the SENSOR SWITCH ASSEMBLY.

YES → Check the voltage between two pins while pressing the POWER button. Is the voltage 120 V AC?

YES → Replace the MAIN PWB ASSEMBLY.

NO → Replace the DRAIN PUMP ASSEMBLY.

DRAIN MALFUNCTION

Is the drain hose twisted or frozen?

YES → Repair the DRAIN HOSE ASSEMBLY.

NO → Is the impeller of the drain pump clogged?

YES → Remove foreign material.

NO → Is the connector disconnected, disassembled?

YES → Reconnect or repair the connector.

NO → Is the coil of the drain pump too high or low? (resistance of the coil is 10-20 Ω)

YES → Replace the DRAIN PUMP ASSEMBLY.

NO → When checking voltage between connectors during spin, is the voltage 120 V AC as in the figure?

NO → Replace the MAIN PWB ASSEMBLY.

YES → Replace the MAIN PWB ASSEMBLY.
WASH HEATER TROUBLE

When checking the voltage between connector during whites washing, is the voltage 120 V AC?

Replace the MAIN PWB ASSEMBLY.

YES

After power off, is the resistance of wire (RED-YELLOW) connectors between 10 Ω-30 Ω?

Normal

NO

After power off and the heater terminal is disconnected, is the resistance 10~30 Ω?

Replace the PWB HARNESS.

HEATING CONTINUOUSLY ABOVE THE SETTING WATER TEMPERATURE

When pressing WASH/RINSE, is the displayed temperature over 10 °C higher than the selected temperature?
Extra Hot: 70 °C
Hot: 50 °C
Warm: 40 °C
Cold: 30 °C

Check if inlet hose is connected to a hot faucet; otherwise, replace MAIN PWB ASSEMBLY.

NO

YES

Is the resistance between ② and ③ of Connector (1) 2.5-180 kΩ?

Check electrical connection. Replace THERMISTOR.

NO

YES

When checking the THERMISTOR on the tub, is the THERMISTOR loose?

Push the THERMISTOR tightly to the rubber.
WILL NOT CIRCULATE WATER

- Is the impeller of the drain pump clogged? **YES** Remove foreign material.
  
- Are the Hose Connector and/or Hose clogged? **YES** Remove foreign material.

- Is the connector disconnected, disassembled? **YES** Reconnect or repair the connector.

- Is the coil of the right side of drain pump open or short circuited? (Coil R is 18-30 Ω) **YES** Replace PUMP MOTOR ASSEMBLY.

- When checking voltage between the connectors during spin, is the voltage 120 V AC, as the figure? **NO** Replace the MAIN PWB ASSEMBLY.
**SPIN TROUBLE**

- Check during spin if the frequency of the water level is 248 or more.
  - **NO**
  - Check the SENSOR SWITCH ASSEMBLY or HOSE (Pressure).
    - If the problem is on the SENSOR SWITCH ASSEMBLY or the HOSE, replace the SENSOR SWITCH ASSEMBLY or the HOSE.
  - **YES**

- Press the START/PAUSE button 2 times in QC Test mode, is the drum spinning at low speed?
  - **YES** Normal
  - **NO**

  - Is it disconnected, or disassembled?
    - **YES** Correct the connection.
    - **NO**

  - Check the motor connector, Is the resistance of the terminal the same as the figure?
    - **YES** Replace the MAIN PWB ASSEMBLY
    - **NO**

    - **MOTOR TERMINAL**
      - Resistance of terminal:
        - ①-②/②-③/③-①: About 5 Ω – 15 Ω

**ERROR**

- Does the spring of Latch Hook actuate?
  - **NO** Replace Door Assembly.
  - **YES**

  - Is there clicking sound once or twice when the START/PAUSE button is pressed to start the cycle?
    - **NO**
    - **YES**

    - Is DOOR SWITCH ASSEMBLY broken?
      - **YES** Replace the DOOR SWITCH ASSEMBLY.
      - **NO** Check the DOOR SWITCH ASSEMBLY Connector and MAIN PWB ASSEMBLY (Red 3 pin, Yellow 4 pin and white 3 pin connector (1)).
Disassemble the cabinet cover and condensing bellows.
Is there any foreign object in the condensing bellows.

Clean the bellows

Replace the thermistor. 
6322FR2046C : Dry Duct

Disassemble the dry fan assembly and dry duct upper, and remove foreign objects in duct and fan.
DRY HEATER TROUBLE

After power off, is the resistance of dry heater 10 ~ 40Ω?

YES

Is thermostat closed?

NO

Replace the thermostat.

NO

Replace the dry heater.

YES

Is thermal fuse cut?

NO

Replace the thermal fuse.

YES

When checking voltage between connectors (①, ②) on drying, is the voltage AC 110V as the figure? (wire color: ① - Red, ② - Blue)

NO

Replace the PWB ASSEMBLY(MAIN)
9. DISASSEMBLY INSTRUCTIONS

Be sure to unplug the machine out of the outlet before disassembling and repairing the parts.

CONTROL PANEL ASSEMBLY

1. Unscrew 2 screws on the back of the top plate.
2. Pull the top plate backward and upward as shown.

3. Disconnect the Display PWB Assembly connector from Trans cable.
4. Pull out the drawer and unscrew 2 screws.
5. Lift the left side of the Control Panel Assembly and pull it out.

6. Unscrew the 9 screws from the Control Panel Assembly.
7. Disassemble the Display PWB Assembly.
1. Disconnect the POWER connector and SENSOR SWITCH ASSEMBLY.
2. Remove the Protect Cover.
3. Disconnect the connectors.
4. Unscrew 1 screw on the back.
5. Disassemble the Main PWB.
**DISPENSER ASSEMBLY**

1. Disassemble the top plate assembly.
2. Pull out the drawer.
3. Push out the DISPENSER ASSEMBLY after unscrew 2 screws.
4. Unscrew the nut at the lower part of the dispenser.
5. Disassemble the 4 connectors from the valves.

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Housing Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blue Housing (YL-BK)</td>
</tr>
<tr>
<td>2</td>
<td>White Housing (WH-BK)</td>
</tr>
<tr>
<td>3</td>
<td>Blue Housing (GY-BK)</td>
</tr>
<tr>
<td>4</td>
<td>Red Housing (BL-BK)</td>
</tr>
<tr>
<td>5</td>
<td>White Housing (OR-BK)</td>
</tr>
</tbody>
</table>

6. Unscrew 2 screws from the back of the cabinet.

**NOISE FILTER**

1. Unscrew a screw from the TOP BRACKET.
2. Disassemble two connectors from the POWER CORD.
Unscrew the 4 screws from upper of the cabinet cover.

Unscrew the screw from filter cover.

Put a flat (−) screwdriver or putty knife into the both sides of the filter cover, and pull it out.

Unscrew the screw from the lower side of the cabinet cover.
5. Open the door.
6. Disassemble the clamp assembly.

7. Tilt the cabinet cover.
8. Disconnect the door switch connector.

※ NOTE: When assembling the CABINET COVER, connect the connector.

9. Lift and separate the cabinet cover.

10. Disassemble the clamp assembly.
11. Disassemble the Gasket.
DOOR

① Open the door.
② Unscrew the 7 screws from the HINGE COVER.

③ Put a flat ( - ) screwdriver into the opening of the hinge, and pull out the hinge cover.

④ Unscrew a screw from the lower side of door.
⑤ Disassemble the door upward.

* Be careful! The door is heavy.

DOOR LOCK SWITCH ASSEMBLY

① Open the door and disassemble the CLAMP ASSEMBLY.
② Unscrew the 2 screws.

* NOTE
  • Reconnect the connector after replacing the DOOR SWITCH ASSEMBLY.
Disassemble the cabinet cover.
Separate the pump hose, the bellows and the circulation hose assembly from the pump assembly.
Disassemble the pump assembly in arrow direction.

Disassemble the cabinet cover.
Separate 2 connectors from the heater.
Loosen the nut and pull out the heater.

**CAUTION**
- When assembling the heater, insert the heater into the heater clip on the bottom of the tub.
- Tighten the fastening nut so the heater is secure.

Disassemble the cabinet cover.
Unplug the white connector from the thermistor.
Pull it out by holding the bracket of the thermistor.
WHEN FOREIGN OBJECT IS STUCK BETWEEN DRUM AND TUB

1. Disassemble the cabinet cover.
2. Separate the heater from the tub.
3. Remove any foreign objects (wire, coin, etc.) by inserting a long bar in the opening.

SENSOR ASSEMBLY (BALL SENSOR)

1. Unscrew the 4 screws from the back cover.
2. Unscrew the single screw from the lower-right side of the cabinet.
3. Disconnect the connector from PWB Harness.
Disassemble the back cover.
Remove the bolt.
Pull out the Rotor.

Unscrew the 2 screws from the tub bracket.
Remove the 6 bolts on the stator.
Unplug the 2 connectors from the stator.

Disassemble the damper hinges from the tub and base.
Separate the dampers.

*NOTE*
- Once removed, replace the damper with new one.
10-2. DRUM & TUB ASSEMBLY
10-3. DISPENSER ASSEMBLY