

# WASHING MACHINE SERVICE MANUAL

#### **A** CAUTION

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

MODEL: WT7800C\*

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# **SAFETY PRECAUTION!**

# **IMPORTANT SAFETY NOTICE!**

This service information is intended for individuals possessing adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair this appliance may result in personal injury or property damage. The manufacturer or seller can not be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

**AWARNING:** To reduce the risk of fire, electric shock, or personal injury when using this appliance, follow basic precautions, including the following:

- ·Wear gloves when working.
- Failure to do this can result in serious injury.
- •The appliance is heavy. Two or more people is required when moving the appliance.
- There is a risk of serious back injury or other injuries.
- Certain internal parts are intentionally not grounded and may present a risk of electric shock only during servicing. Service personnel Do not contact the following parts while the appliance is energized: Pump bracket, rotor, and heater.
- •Disconnect this appliance from the power supply before servicing. Turning the controls to the off position does not disconnect this appliance from the power supply.
- Failure to do this can result in shock.
- •Reconnect all grounded devices after servicing. Failure to do this can result in shock.

To reduce the risk of fire, electric shock, or personal injury when using this appliance, follow basic precautions, including the following.

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# 1. SPECIFICATIONS

Model	WT7800C*		
Electrical	120VAC@60Hz		
Inner Tub	Stainless		
Inlet Water Pressure	14.5 ~ 116 psi(100 ~ 800 kPa)		
Rating of Fuse	120V/60Hz		
Spin Speed	950±50		
Weight	127.9lb(58kg)		
Cycles	Normal, Heavy Duty, Bedding, Deep Wash, Whites, Oxi Sanitize™ Normal, Delicates, Perm.Press, Speed Wash, Waterproof, Downloaded		
Time Delay	1 – 19 Hr		
Lid Interlock Switch	Magnet Sensor		
Control Lock	Yes		
Softener Dispenser	Yes		
Detergent Dispenser	Yes		
Bleach Inlet	Yes		
Auto Power Off	Yes		
Smart Rinse™with Jet Spray	Yes		
Heater	No		

# 2. INSTALLATION INSTRUCTIONS

#### 2-1. HOW TO ADJUST LEVEL

Installation area

Install the washer on a firm, flat surface.

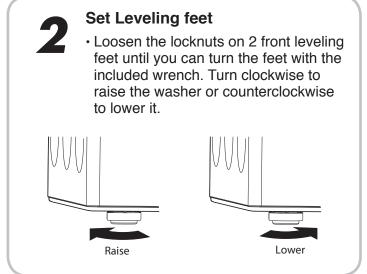
If the washer is installed on an unsuitable floor, it could make considerable noise and vibrate.

Checking level

Open the lid, check if the washer is correctly leveled by looking down from the top. If the tub is not centered in the opening, then the washer is not level.

WRONG

RIGHT



Checking slope

If installation surface is tilted, the washer will vibrate. Do not install on a sloping floor.

No shims. It would be dangerous. If the floor is that far from being level, it is a floor problem and not a washer problem.

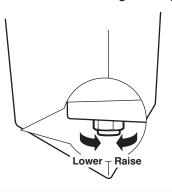
# **ACAUTION**

- The ventilating openings in the base area must not be obstructed by carpeting.
- Install the washing machine on a level and firm surface. There should be no more than 1° of variation.
- Wooden floors may need reinforcing to prevent the normal vibration which occurs with an unbalanced load.
- Do not install the washer on an inclined floor.
   Improper installation of the washer may cause noise and malfunctioning.

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#### **Horizontal setting**

• Lift the front of the washer and adjust level by turnings the adjustable legs clockwise or using the adjusting plate.

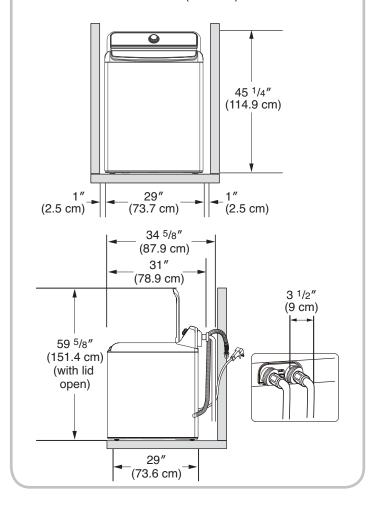






# Distance between the drain hose and the wall

 Distance between the drain hose and the wall should be more than 4 inches (10 cm,) and the distance between any other part and the wall should be more than 1 inches (2.5 cm.)



#### ■ Do not install the washer in the following places.

- Where the washer is exposed to direct sunlight.
- · Near a heater or heating appliance.
- Where the washer is exposed to freezing temperatures.
- In damp environments such as bathrooms or harmful environments.

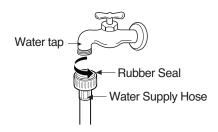
### 2-2. CONNECTING WATER SUPPLY HOSE

Before connecting the water supply hose to the water tap, check the hose type and then choose the correct instruction here below.

#### Screw Type

# 1 Attach the water supply hose to the tap.

Push the water supply hose up so that the rubber packing within the hose can adhere completely to the tap.



# 2 Connect the water supply hose to the tap.

Connect the water supply hose to the tap and then tighten it by screwing it to the right.

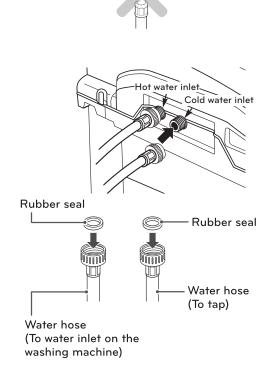


# 3 Check water leakage.

After connecting the hose, open the tap to check for any water leakage.

### **Connecting Water Supply Hose to the Machine**

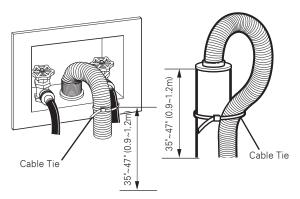
- Connect the water supply hose to inlet valve of the washing machine, and then lock it by turning the hose connecting part.
- Check to see if there is a rubber seal inside the connector.
- A new washing machine should be installed with newhoses. The old hoses should not be reused.
- Replace hoses every 5 years.



### 2-3. CONNECT THE DRAIN HOSE

Insert the end of the drain hose into the drain.

• If the drain is large enough for the flange on the hose to fit inside, then do not insert the flange more than 1-2 inches into the drain.



**NOTE:** • The drain hose should always be properly secured to the drain or standpipe. Failure to secure the drain hose properly can result in flooding and property damage.

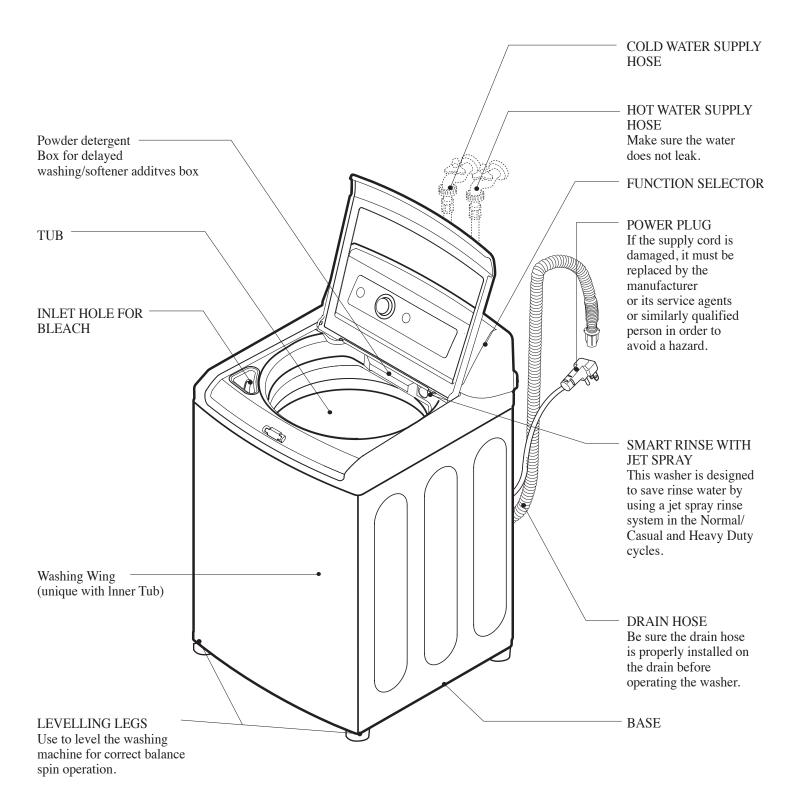
- The end of the drain hose should be placed 39" (99 cm) above the floor.
- The drain must be installed in accordance with any applicable local codes and regulations.
- Make sure that the water lines are not stretched, pinched, crushed, or kinked.
- Do not insert the drain hose more than 12" (30 cm) into the drain pipe to avoid siphoning and odor build-up.

# **AWARNING:**

- The washer should never be installed or stored in a location subject to freezing temperatures. If the
  washer was exposed to freezing temperatures prior to installation, allow it to stand at room
  temperature for several hours before use. Damage to the water lines and internal mechanisms of
  the washer can result.
- Water supply pressure must be between 20 psi and 120 psi (100 ~ 827kPa) If the water supply pressure is more than 116 psi, a pressure reducing valve must be installed. If you have uncontrolled water temperature and pressure you should fit a temperature and pressure relief valve to ensure that water temperature and water pressure remain within the safe limits. Consult a plumber or electrician if you are unable to adjust water temperature and or pressure. Failure to do so can result in damage to the machine.
- Plug the power cord of washer into a properly grounded outlet. Failure to do this can result in shock or serious injury.

# 3. OPERATING INSTRUCTION

### 3-1. IDENTIFICATION OF PARTS



#### 3-2. BEFORE STARTING TO WASH

#### Care Labels

· Look for a care label on your clothes.

This will tell you about the fabric content of your garment and how it should be washed. Sort clothes into loads that can be washed with the same wash cycle, water temperature, and spin speed.



#### Sorting

To get the best results, different fabrics need to be washed in different ways.

• **SOIL** (Heavy, Normal, Light) Separate clothes according to the type and amount of soil.

 COLOR (Whites, Lights, Darks) Separate white fabrics from colored fabrics. • LINT (Lint producers, Collectors) Separate lint producers and lint collectors. Lint Producers Terry cloth, Chenille, Towels, Diapers

Lint Collectors Synthetics, Cordurov, Permanent Press, Socks



#### Check before Loading

- Check all pockets to make sure that they are empty. Things such as nails, hairclips, matches, pens, coins, and keys can damage both your washer and your clothes.
- Mend any torn garments or loose buttons. Tears or holes may become larger during washing.
- Remove belts, underwires, etc. to prevent damage to the machine or your clothes.
- · Pretreat any dirt and stains.
- · Make sure the clothes are washable in water.
- Check the washing instructions.
- · Remove any paper or tissue in the pockets.
- underwire

#### Pretreatment on stains or heavy soil

- Pretreat shirt collars and cuffs with a pre-wash product or liquid detergent when placing them in the washer. Before washing treat special stains with bar soaps, liquid detergent, or a paste of water and powdered detergent.
- Use a pretreat soil and stain remover.

Treat stains AS SOON AS POSSIBLE. The longer they are left, the harder they are to remove. (For more detail refer to page 14-15)

#### Loading

Do not wash fabrics containing flammable materials (waxes, cleaning fluids, etc.). **Load Size** 

The WATER LEVEL should just cover the clothes. Adjust the load size accordingly. Loosely load clothes no higher than the top row of holes in the washer tub. To add items after washer has started, press the **Start** button and submerge additional items. Close the lid and press the Start button again to restart.

\* Do not wash waterproofed fabrics (such as skiing outfits, diapers, or nappy auto seat covers.)

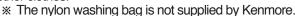
#### Light and Large-sized clothing

Clothes like downs and woolens are lightweight, large, and float easily. Use a nylon net and wash them in a small amount of water. If the laundry floats during the wash cycle, it may become damaged. Use dissolved detergent to prevent the detergent from clumping.

\* Do not wash water-proof textilles (Skling outfit, baby diaper, nappy automobile seat covers.)

#### Long laundry items

Use nylon bag nets for long, delicate items. For laundry with long strings or long length, a bag will prevent tangling during washing. Fasten zippers, hooks, and strings to make sure that these items don't snag on other clothes.











# 1) Using Water

#### Water Temperature

- The machine sets the appropriate temperature automatically according to the wash program.
   You can override the preset selection by pressing the water temperature icon. Touch the arrow buttons up or down until your desired temperature setting is displayed.
- The temperature of the water impacts the effectiveness of all laundry additives and therefore, the cleaning results.
- We recommend temperatures of:
- HOT 120°F (120-140°F) White items, diapers, underclothing and heavily soiled, colorfast items.
- WARM 90°F (85-105°F) Most items
- COLD 66°F (65-75°F)

  Only very bright colors with light soil.
- When washing in COLD water additional steps may be needed:
- Adjust detergent amount and pre-dissolve detergent in WARM water
- Pretreat spots and stains
- Soak heavily soiled items
- Use appropriate bleach
- \* Temperature below 18°C (65°F) will not activate laundry additives and may cause lint, residue, poor cleaning, etc. In addition, detergent manufactures and care labels define COLD water as 26~29°C (80-85°F). If the temperature of the water in the tub is too cold for your hands, the detergent will not activate and clean effectively.

#### Note

If iron is present in the water, the clothes may become an all-over yellow or they may be stained with brown or orange spots or streaks. Iron is not always visible. Installation of water softener or an iron filter may be necessary for severe cases.

# 2) Using Detergent

#### Detergent

Follow the detergent package directions. Using too little detergent is a common cause of laundry problems. Use more detergent if you have hard water, large loads, greasy or oily soils or lower water temperature.

#### Choosing the Right Detergent

Your washing machine is designed for use with only High-Efficiency (HE) detergents. HE detergents are formulated specifically for top-load washers and contain suds-reducing agents. Always look for the HE symbol when purchasing detergent. HE detergents produce fewer suds, dissolve more efficiently to improve washing and rinsing performance, and help to keep the interior of your washer clean. Using a regular detergent will cause unsatisfactory performance, oversudsing, machine build-up, and could damage the machine.

#### Using the Liquid Bleach Dispenser

When you pour bleach into the bleach dispenser, the bleach isimmediately added to the tub as it fills with water, safelydiluting the bleach.

#### **NOTE**

- The dispenser cover cannot be removed. To clean the cover, wipe it with a damp paper tovel.
- 1. Check clothing care labels for special instructions.
- 2. Measure liquid bleach carefully, following instructions on thebottle.
  - High-efficiency washers use less water, so less bleach is needed. One half cup is enough for most loads.
- 3. Carefully pour the pre-measured amount of bleach directly into the bleach dispenser.
- If you are using powdered bleach of any kind, pur it directly into the tub before adding the laundry. Never add powdered bleach to the liquid bleach dispenser.

Do NOT mix chlorine bleach with ammonia or acids, such as vinegar or rust / scale remover. Mixing chemicals like these can produce a lethal gas, resulting in severe injury or death.

#### **NOTE**

- Do not add powdered bleach to this dispenser. The bleach dispenser is designed to dispense liquid bleach only. Powdered or liquid color-safe bleach will not dispense properly.
- Do not place laundry items on top of the bleach dispenser when loading and unloading the washer.
- Always follow the manufacturer's recommendations when adding bleach. Never add more than one cup and do not exceed the maximum fill line since this can cause the bleach to be dispensed immediately, resulting in damage to fabrics. Using too much bleach can damage fabrecs.
- Naver pour undiluted liquid chlorine bleach directly onto the load or into the tub. Fabric damage can occur.
- Do not use color-safe bleach or Oxi products in the same cycle with liquid chlorine bleach.

#### Using the Dispenser Drawer

#### **ABOUT THE DISPENSER**

The automatic dispenser consists of two compartments which hold:

- · Liquid fabric softener.
- · Liquid or powdered detergent.

All laundry products can be added at once in their respective dispenser compartments. They will be dispensed at the appropriate time for the most effective cleaning.

After adding the laundry products to the dispenser, close the dispenser drawer.

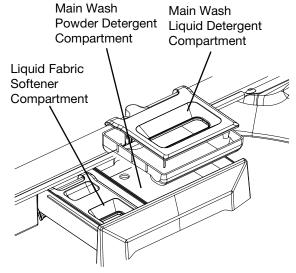
Close the dispenser drawer gently to avoid spilling or starting the siphoning action.

To add detergent, bleach, and fabric softener to the automatic dispenser:

- Open the dispenser drawer.
- Load the laundry products into the appropriate compartments.
- Close the lid slowly and smoothly to avoid spilling, splashing, or premature dispensing of the contents.

**NOTE:** It is normal for a small amount of water to remain in the dispenser compartments at the end of the cycle.

**NOTE:** Do not use powdered or liquid bleach in the dispenser drawer.



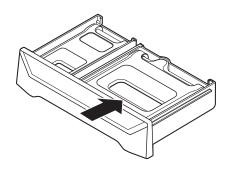
#### **Adding Detergent**

Add measured detergent to the detergent compartment of the dispenser drawer.

· Do not exceed the maximum fill line.

Detergent is flushed through the dispenser at the beginning of the wash cycle. Either powdered or liquid detergent can be used, but the drawer insert must be removed to use powder.

Detergent usage may need to be adjusted for water temperature, water hardness, size, and soil level of the load. Avoid using too much detergent in your washer, as it can lead to oversudsing and detergent residue being left on the clothes.



#### Adding Fabric Softener

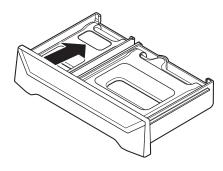
Pour the recommended amount of liquid fabric softener into the left-hand compartment. Use only liquid fabric softener.

Dilute with water to the maximum fill line.

· Do not exceed the maximum fill line.

Overfilling can cause early dispensing of the fabric softener, which could stain clothes.

**NOTE:** Do not pour fabric softener directly on the wash load. It may stain the clothes.



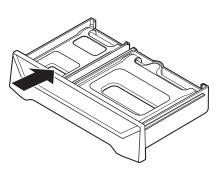
#### Adding Wash Boost Additives

The wash boost dispenser may be used to clean heavily soiled or stained garments more efficiently.

If desired, place the additives for the wash boost setting in the right-hand compartment. Use only liquid additives.

 Do not exceed the maximum fill line to avoid detergent buildup In clothing and the washer

Overfilling can cause early dispensing of presoak additives, which could result in damaged clothes.



**NOTE**: Do not pour additives directly on the wash load. It may stain the clothes.

# 3) Special Guide for Stain Removal

#### **A** WARNING

- Do not use or mix liquid chlorine bleach with other household chemicals such as toilet cleaners, rust removers, acid, or products containing ammonia. These mixtures can produce dangerous fumes which can cause serious injury or death.
- To reduce the risk of fire or serious injury to persons or property, comply with the basic warnings listed below:
  - Read and comply with all instructions on stain removal products.
  - Keep stain removal products in their original labeled containers and out of children's reach.
  - · Thoroughly wash any utensil used.
  - · Do not combine stain removal products, especially ammonia and chlorine bleach. Dangerous fumes may result.
  - Never wash items which have been previously cleaned in, washed in, soaked in or spotted with gasoline, dry cleaning solvents, or other flammable or explosive substances because they give off vapors that could ignite or explode.
  - Never use highly flammable solvents, such as gasoline, inside the home. Vapors can explode on contact with flames or sparks.

#### For successful stain removal:

- · Remove stains promptly.
- Determine the kind of stain, then follow the recommended treatment in the stain removal chart below.
- To pretreat stains, use a prewash product, liquid detergent, or a paste made from powdered detergent and water.
- Use COLD water on unknown stains because HOT water can set stains.
- Check care label instructions for treatments to avoid on specific fabrics.
- Check for colorfastness by testing stain remover on an inside seam.
- · Rinse and wash items after stain removal.



	Stain Removal
STAIN	TREATMENT
Adhesive tape, chewing gum, rubber cement	Apply ice. Scrape off excess. Place stain face down on paper towels. Saturate with prewash stain remover or nonflammable dry cleaning fluid.
Baby formula, dairy products, egg	Use product containing enzymes to pretreat or soak stains.
Beverages (coffee, tea, soda, juice, alcoholic beverages)	Pretreat stain. Wash using COLD water and bleach safe for fabric.
Blood	Soak the item in a bowl of COLD water for at least 30 minutes. Then launder as usual.
Candle wax, crayon	Remove all surface wax. Put the garment in the freezer for a couple of hours, then remove and break away as much wax as possible. Try a commercial removal product like Goo-Gone, Goop, or Go-Jo cleaner for the remaining wax stains. DO NOT ATTEMPT TO REMOVE WITH HEAT!
Chocolate	Pretreat or soak in WARM water using product containing enzymes. Wash using bleach safe for fabric.
Collar or cuff soil, cosmetics	Pretreat with prewash stain remover or rub with bar soap.
Dye transfer on white fabric	Use packaged color remover. Wash using bleach safe for fabric.
Grass	Pretreat or soak in WARM water using product containing enzymes. Wash using bleach safe for fabric.
Grease, oil, tar (butter, fats, salad, dressing, cooking oils, car grease, motor oils)	Scrape residue from fabric. Pretreat. Wash using hottest water safe for fabric. For heavy stains and tar, apply nonflammable dry cleaning fluid to back of stain. Replace towels under stain frequently. Rinse throughly. Wash using hottest water safe for fabric.
Ink	Some inks may be impossible to remove. Washing may set some inks. Use prewash stain remover, denatured alcohol, or nonflammable dry cleaning fluid.
Mildew, scorch	Wash with chlorine bleach if safe for fabric. Or, soak in oxygen bleach and HOT water before washing. Badly mildewed fabrics may be permanently damaged.
Mud	Brush off dry mud. Pretreat or soak with product containing enzymes.
Mustard, tomato	Pretreat with prewash stain remover. Wash using bleach safe for fabric.
Nail polish	May be impossible to remove. Place stain face down on paper towels. Apply nail polish remover to back of stain.  Repeat, replacing paper towels frequently. Do not use on acetate fabrics.
Paint, varnish	WATER BASED Rinse fabric in cool water while stain is wet. Wash. Once paint is dry, it cannot be removed, OIL BASED AND VARNISH Use solvent recommended on can label. Rinse throughly before washing.
Rust, brown or yellow discoloration	For spots, use rust remover safe for fabric. For discoloration of an entire load, use phosphate detergent and nonchlorine bleach. Do not use chlorine bleach because it may intensify discoloration.
Shoe polish	LIQUID Pretreat with a paste of powdered detergent and water. Apply paste and scrape residue from fabric. Pretreat with prewash stain remover or nonflammable dry cleaning fluid. Rub detergent into dampened area. Wash using bleach safe for fabric.

#### 3-3. FUNCTION OF EACH BUTTON

#### **POWER**

- · Power on.
- · Push again, power goes off
- Power goes off automatically after the wash is finished.
- After turning the power on, the unit will automatically turn off if nothing is selected.

#### CYCLE BUTTON

- · Use for selecting wash program.
- This button allows the selection of 12 different programs for different kinds of laundry and dirtiness.
- Program selections light up in sequence as follows:
   Normal ► Heavy Duty ► Bedding ► Deep Wash ►
   Whites ► Oxi Sanitize™ ► Downleaded ►
   Waterproof ► Speed Wash ► Perm.Press ►
   Delicates ► Pre Wash+ Normal

Select the desired program by ressing the button.



#### DELAY WASH (Selection) BUTTON

- Delayed finishing time.
- The time increases when the button is pushed.
- The following settings are indicated as the button is pushed 1
  - ▶ 2 ▶3 ▶ 4 ▶ ... 24▶
  - ▶ Reservation off ▶ 1 ...
- To cancel delay time, turn the power switch off or push DELAY WASH button until off.

#### WASH / TEMP.

- Select to select Water (Wash/Rinse) Temperature.
- Pressing the button allows
   The selection of Tap Cold ►
   Cold ► Semi Warm ► Warm
   ► Hot Extra Hot
   respectively. Default setting is Warm/Cold.

#### Note

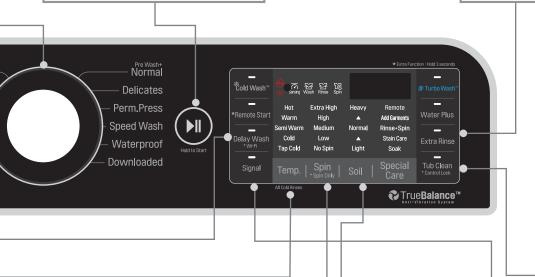
The time shown on the display is the estimated cycle time. If the sensors and microprocessor elect to make changes during the cycle, the display will be adjusted accordingly.

#### START/ PAUSE BUTTON

- Use to start or pause the wash cycle.
- Changes while be made to the wash settings while the machine is paused.
- Repeats start and pause by pushing the button.

#### EXTRA RINSE BUTTON

 This includes an extra rinse cycle for a better rinsing action.



#### SPIN SPEED

 Spin speed can be selected from Low to high Extra high.

#### **SOIL LEVEL**

- Allows a selection to be make for the strength of the wash action.
- Power option selections light up in
  - sequence as follows Normal ▶Heavy ▶ Light ▶ Normal as the button is pushed.
- Adjustment can be made while washing.
- Default SOIL LEVEL is Normal.

#### SIGNAL BUTTON

- The beeper sounds at the end of the cycle. The clothing should be removed at that time to prevent the setting of wrinkles.
- Touch the SIGNAL button to cycle through the volume settings between OFF, and HIGH

# CONTROL LOCK FUNCTION

- Use to lock or unlock the control buttons to prevent settings from being changed.
- To actuate or release the CONTROL LOCK, press and hold the SIGNAL button until the lock is turned ON or OFF.

# 3-4. WASHING PROGRAMS.

# **Cycle Guide**

Cycle	Wash Temp.	Spin Speed	Soil Level	Soak	Stain Care	Cold Wash	Extra Rinse	Water Plus	Turbo Wash™
	Hot	Extra high	Heavy						
	Warm	High							
Normal	Semi Warm	Medium	Normal	•	•	•	•	•	
	Cold								
	Tap cold	No spin	Light						
	Hot	Extra high	Heavy						
	Warm	High							
Heavy Duty	Semi Warm	Medium	Normal	•	•		•	•	•
	Cold	Low							
	Tap Cold	No spin	Light						
	Hot		Heavy						
	Warm								
Bedding	Semi Warm	Medium	Normal	•		•	•		
	Cold	Low							
	Tap Cold	No spin	Light						
	Hot	Extra high	Heavy						
	Warm	High							
Deep Wash	Semi Warm	Medium	Normal	•			•	•	
	Cold	Low							
	Tap Cold	No spin	Light						
	Hot	Extra high	Heavy						
	Warm	High							
Whites	Semi Warm	Medium	Normal				•	•	
		Low							
		No spin	Light						

<sup>● =</sup> available option, = default setting

Cycle	Wash Temp.	Spin Speed	Soil Level	Soak	Stain Care	Cold Wash	Extra Rinse	Water Plus	Turbo Wash™
	Hot	Extra High	Heavy						
		High							
Oxi Sanitize™		Medium	Normal				•	•	
		Low							
		No Spin	Light						
	Hot	Extra high							
	Warm	High							
Pre Wash+ Normal	Semi Warm	Medium	Normal				•	•	
	Cold	Low							
	Tap Cold	No spin	Light						
			Heavy						
	Warm								
Delicates	Semi Warm		Normal				•	•	
	Cold	Low							
	Tap Cold	No spin	Light						
			Heavy						
	Warm	High							
Perm. Press	Semi Warm	Medium	Normal	•		•	•	•	
	Cold	Low							
	Tap Cold	No spin	Light						

<sup>● =</sup> available option, = default setting

Cycle	Wash Temp.	Spin Speed	Soil Level	Soak	Stain Care	Cold Wash	Extra Rinse	Water Plus	Turbo Wash™
		Extra high	Heavy						
	Warm	High							
Speed Wash	Semi Warm	Medium	Normal	•			•	•	•
	Cold	Low							
	Tap Cold	No spin	Light						
			Heavy						
	Warm								
Waterproof	Semi Warm		Normal				•	•	
	Cold	Low							
	Tap Cold	No spin	Light						
	Hot	Extra high	Heavy						
Downloaded	Warm	High							
Default:	Semi Warm	Medium	Normal		•	•	•	•	•
Small Load	Cold								
	Tap Cold	No spin	Light						

<sup>● =</sup> available option, = default setting

#### 3-5. CARE AND MAINTENANCE

#### When There Is The Possibility Of Freezing Temperatures

- Close the water taps and remove the water supply hoses.
- Remove the water which remains in the water supply.
- Lower the drain hose and drain the water in the sump and the drain hose by running a spin cycle.

#### If Frozen

- Remove the water supply hose and immerse it in HOT water. (40° C or 104° F).
- Pour approximately 2 liters (1/2 gallons) of HOT water (40° C or 104° F) into the sump and allow it to stand for at least 10 minutes.
- Connect the water supply hose to the water tap Run an Express Wash cycle to confirm that the machine fills, drains, and operates properly.

Wash Inner-Tub Leave the lid open after washing to allow moisture to evaporate. If you

want to clean the inner-tub use a clean soft cloth dampened with liquid

detergent, then rinse. (Do not use harsh or gritty cleaners.)

**Inlet Hoses** Hoses connecting washer to faucet should be replaced every 5 years. **Exterior** 

Immediately wipe off any spills. Wipe with damp cloth. Avoid hitting surface with sharp

obiects.

**Long Vacations** Be sure water supply is shut off at faucets. Drain all water from hoses if weather will be below freezing.

#### Cleaning The Inside Of Your Washer

If you use fabric softener or do regular COLD water washing, it is very important that you clean the inside of your washer occasionally as described below.

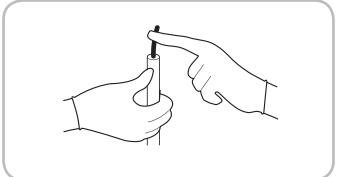
- Fill your washer with HOT water.
- Add 1 cup of bleach.
- Let it operate for several minutes.
- Stop the washer, open the lid, and leave it to soak overnight.
- After soaking, drain the washer and run it through a normal cycle.

#### Products That Might Damage Your Washing Machine

- · Concentrated bleaches and diaper sanitizer will cause damage to the paintwork and components of your washer.
- Hydrocarbon solvents, i.e. gasoline, kerosene, paint thinners, and lacquer thinners, etc. can dissolve plastic and blister paint.
  - (Be careful when washing garments stained with these solvents as they are flammable, DO NOT put them in washer or dryer.)
- Some pretreatment sprays or liquids can damage your washer's control panel.
- Use of dyes in your washer may cause staining of the plastic components. The dye will not damage the machine but we suggest you thoroughly clean your washer afterwards. We do not recommend the use of dye strippers in your washer.
- · Do not use your washer lid as a work surface.

# 4. SERVICE INFORMATION

#### 4-1. DISASSEMBLY INSTRUCTION

















▶ Be sure to unplug the power to repair and replace electric parts.

# ESD (ElectroStatic DIscharge) WARNING

Be sure to follow proper ESD and grounding precautions for diagnosis and repair. If this is not possible, touch the ground wire on a regular basis to remove any static charge built up on your person.

# 1) Remove front panel and main PCB assembly

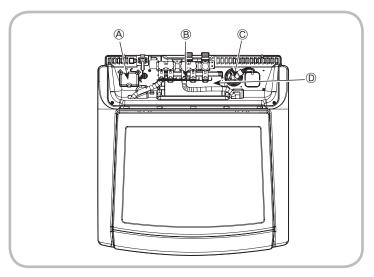
- Remove 3 panel screws attaching the panel on the back
- ② Disassemble rear panel.
- ③ Remove Rear Panel by pressing hook and remove 2 panel screws Remove 1 screw on the protect cover.
- 4 Disassemble the protective cover.
- (5) Disconnect the leads from the controller.
- 6 Remove the Knob assembly.
- 7 Remove PCB assembly by pressing hooks one by one.

#### **A** Caution

If PCB and Front panel are not correctly assembled, the light can be spread.



When assembling the PCB and Front panel by pushing the PCB to the upper and check the Segment seated. After assembly check the light spread.



2) Disassembly of the Noise Filter, Power Cord, Inlet Valve, Pressure Switch, and Dispenser Housing.



#### **Noise Filter and Power Cord**

- ① Remove the 2 screws attaching the noise filter.
- ② Disconnect both connectors in the noise filter. Remove the power cord from the noise filter.



#### **Pressure Switch**

- ① Disconnect the leads from pressure switch and detatchthe pressure switch from the machine.
- ② Disconnect the pressure tube from the pressure switch.



# **Dispenser Housing & Inlet Valve**

- ① Remove the hoses and Lead Wire from the input valve.
- ② Disassemble the Inlet valve and the dispenser housing.

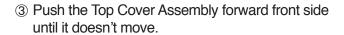


# 3) Disassembly of Top Cover

① Remove 2 screws attaching the back side of top cover.



② Lift the top cover at the back of the washer

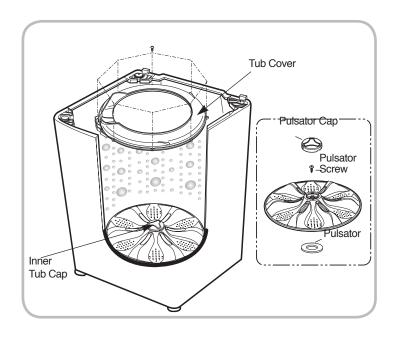


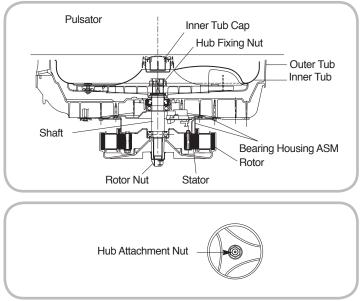


- ④ Push each side of cabinet to remove from side holders. If remove top cover from all of side holder, lift the top cover.
- ⑤ Use the blade to push the left hinge out of the way and to displace the hinge pin to remove the lid.



- ® Remove 1 Screw, Cover, and Safety from the Cabinet.
- ② According to the environment, place the Top cover on the floor at the side or back of the washer.





# 4) Disassembly of Tub Cover and Pulsator

- ① Remove separate hooks fixed with upper of outer tub and take off the tub cover.
- 2 emove the pulsator cap.
- ③ Remove the pulsator screws.
- 4 Remove the pulsator washer.

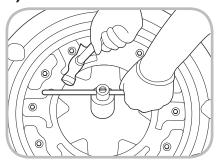
# 5) Assemble the service tool (38 mm wrench)

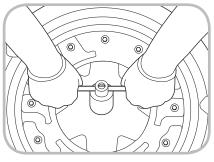




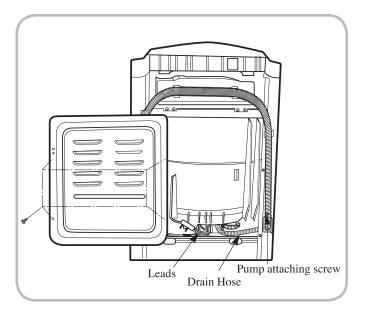


# 6) Remove the hub attachment nut. (38 mm)





- ☐ Hit the bar using the hammer. ☐ Disconnect hub nut and disassemble the inner tub.



# 7) Disassembly of the Back Cover and Drain Pump

- Remove the screws that attach the back cover and take it off.
- Disconnect the leads and the drain hose from the drain pump.



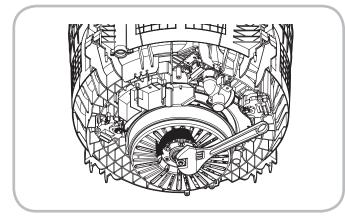


- When remove the pump attachment screws on the bottom of cabinet, tilt the washing machine.
- Remove the lead connector.
- After push the hooks near pump legs, remove the BLDC Pump

#### **A** Caution

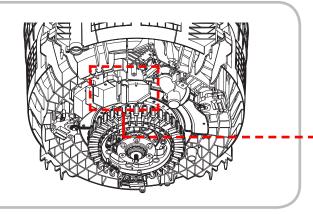
Holder should be assembled like next (right) pictures. The angle between guide part and holder should be 90 deg.



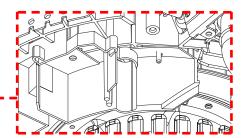


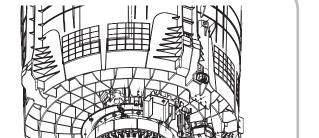
# 8) Disassembly of Rotor and Stator

- Use a wrench (M14) to remove the nut that connects the rotor to the shaft.
   (The torque should be 250 kgf/cm or 88 footpounds.)
- Remove the rotor by pulling it straight off the splined shaft.

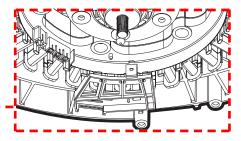


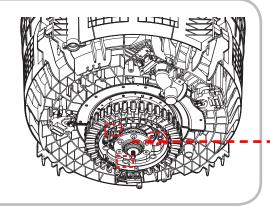
③ Remove the screws that secure the water guide.



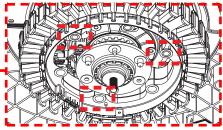


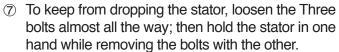
④ Disconnect stator connection before removing the stator in the subsequent step.



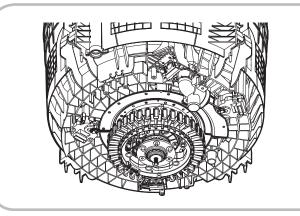


- ⑤ Remove the Three screws securing the Stator.
- 6 Check the position of the snap ring, being cure it faces the rotor and stator.





® Be careful during removal and replacement to avoid cutting, nicking, or pinching any of the wires. This could cause a short or electrical noise in the machine.

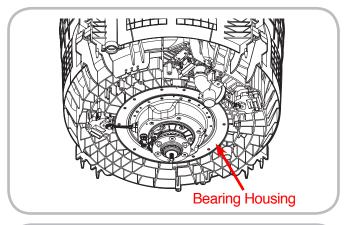




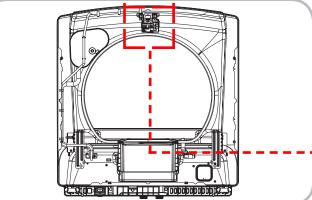
Must assemble the 2T washer before assemble the rotor. If not, there will be damage to driving parts.

When assembling the rotor, hold the outer parts and to axial direction.

Be careful your fingers are not stuck between rotor and stator by magnetic force.

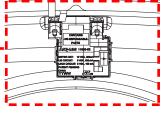


Remove 19 screws to release the bearing housing.
 Pull the housing away from the tub, but do not pry it with a screwdriver to avoid damage.



# 9) Disassembly of Door Lock Switch

- 1 Remove the two door lock attachment screws.
- ② Remove the door switch and remove the attachment tube.





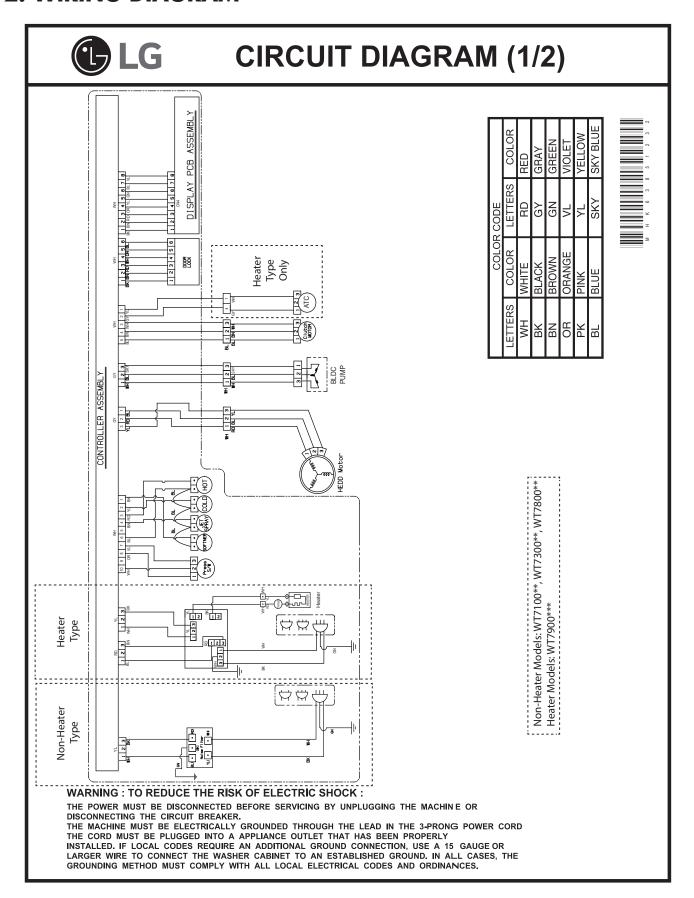




# 10) Detachment of Bleach Cap Cover

- ① Remove the Doorlock switch Wire.
- 2 Push the 4 hooks to the top cover hole to remove.

### 4-2. WIRING DIAGRAM



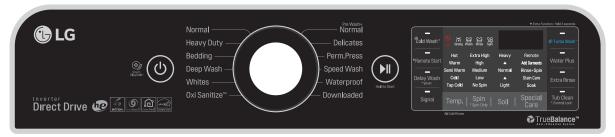
#### 4-3. TEST RUNNING WITHOUT WATER

# 1) SAFETY CAUTION

- The main power board assembly has exposed live 120 VAC and live DC voltages. Use care when disconnecting connectors during troubleshooting and testing. (Wear electrostatic discharge gloves when handling the board.
- Unplug the power when handling the board assembly. (Wear electrostatic discharge gloves when handling the board. Store the board in an ESD [ElectroStatic Discharge] plastic bag.)

#### 2) SERVICE MODE

The washer must be empty and the controls must be plugged in and turned off.



- Press the POWER button: then press and hold the Temp. and Soil buttons. The buzzer will sound twice.
- Press the Start/Pause button to advane to the subsequent test mode step.

Number of times the START/PAUSE button is pressed	Check Point	Display Status
None	Main program version	t1 and main program version
1 time	Display program version	t2 and display program version
2 time	None	t3
3 time	Inlet valve for detergent turns on.(Cold Water)	A and water level frequency(268 ~ 233)
4 time	Inlet valve for detergent turns on.(Hot Water)	b and water level frequency(268 ~ 233)
5 time	Inlet valve for softener turns on.(Cold Water)	C and water level frequency(268 ~ 233)
6 time	Inlet valve for jet spray turns on.(Cold Water)	d and water level frequency(268 ~ 233)
7 time	Inlet valve for bleach turns on.(Cold Water)	E and water level frequency(268 ~ 233)
8 time	Heater check (on heater model)	t4 and the coefficient of flood sensing
9 time	Drain pump check	t6 and water level frequency(268 ~ 233)
10 time	Load sensing check	t7 and the coefficient of load sensing
11 time	Agitate (tub) check and Door Lock check	t8 and RPM
12 time	Spin check	t9 and RPM
13 time	Off Unlocks the door Turns off all LED	None

### 4-4. TROUBLESHOOTING BY COMMON WASHING PROBLEMS

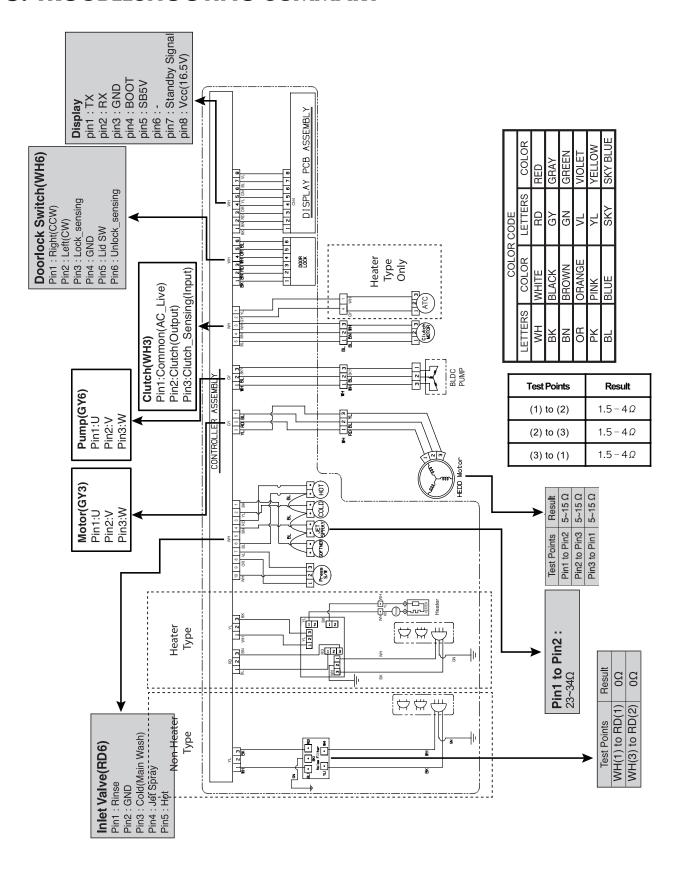
Many washing problems involve poor soil and stain removal, residues of lint and scum, and fabric damage. For satisfactory washing results, follow these instructions.

Use ONLY powdered or liquid HE (High Effificiency) detergents. Do NOT use flakes scraped from a soap cake or bar, flakes, soap ribbons (available in some markets,) detergent tablets, plastic pouches, magic laundry balls, or anything other than powdered or liquid HE detergent products. Do not use soap of any kind. Do not use other types of detergent or soap products, such as hand soap, dishwashng liquid, or any others.

#### WASHING PROBLEM

Problems	Possible Causes	Solutions and Preventive Measures
Poor soil removal	<ul> <li>Insufficient detergent</li> <li>Wash water temperature too low</li> <li>Incorrect wash cycle</li> <li>Laundry missorted</li> <li>Stains not properly pretreated</li> </ul>	Use correct amount of detergent for load size, amount of soil and water hardness. Use WARM or HOT water for normal soil. Different water temperature may be required according to soil type. (refer to page 10) Reduce load size. Wash with heavy or soak & heavy wash cycle for heavy soiled laundry. Separate heavily soiled items from lightly soiled ones. Pretreat stain and heavy soil according to directions shown on page 15.
Blue Stains	Undiluted fabric softener dispensed directly onto fabric	Pretreat the stain with detergent or a stain removal agent.  Do not overfill fabric softener dispenser and do not pour liquid fabric softener directly onto fabric.  See page 13 for more instructions.
Black or gray marks on clothes	A buildup caused by the interaction of fabric softener and detergent can flake off and mark clothes     Not enough detergent	Keep the recommendations against scum (waxy buildup). Use correct amount of detergent for load size, soil level, and water Hardness.
Yellow or brown rust stains	<ul> <li>Iron or manganese in water supply, water pipes, or water heater</li> </ul>	To restore discolored load of whites, use rust remover safe for fabric. Install nonprecipitating water softener or an iron filter in your water supply system for an ongoing problem. Before washing, run water for a few minutes to clear lines.
Lint	<ul><li>Incorrect sorting</li><li>Tissues left in pocket</li><li>Overloading the washer</li></ul>	Do not overload the washer Do not overload the washer. Some detergents need to be pre-dissolved, check the detergent instructions. Try pre-dissolving the detergent. Increase water temperature using HOT water safe for fabric. Use proper amount of detergent.
Residue or Detergent	Overloading the washer     Undissolved detergent     Excessive detergent	Never pour chlorine bleach directly on fabric. See page 11 for adding liquid bleach. Fasten zippers, hooks, and buckles. Remove objects in pockets. See page 9 for caring before loading. Do not overload the washer.
Holes, tears, or snags	<ul> <li>Incorrect use of chlorine bleach.</li> <li>Unfastened zippers, hooks, buckles</li> <li>Ribs, tears and broken threads</li> <li>Overloading the washer</li> <li>Degradation of fabric</li> </ul>	

# 4-5. TROUBLESHOOTING SUMMARY



# 4-6. PCB Picture

# **Main PCB**



# 4-7. TROUBLESHOOTING WITH ERROR CODE

Trouble	Check	Counterplan
IE	<ol> <li>Verify the valve is open and water is on.</li> <li>Check the filter on inlet valve whether clogged with foreign material or not.</li> <li>Check the connector of valve and RD6 on PCBA.</li> <li>Check the testmode (Testmode 3)</li> <li>Check the valve resistance. (0.8-1.2 kΩ)</li> </ol>	<ol> <li>Turn the tap on.</li> <li>Clean or replace the filter</li> <li>Reconnect or repair the connector</li> <li>Replace the PCBA</li> <li>Replace the inlet valve assembly.</li> </ol>
OE	<ol> <li>Check the test mode (Testmode 6)</li> <li>Check the connector of PCBA or pump or connection connector</li> <li>Check the connection from PCB to pump by tester</li> <li>Check the Pump Resistance 1.5Ω to 4Ω (Pin 1-2,2-3,3-1)</li> </ol>	Replace the PCBA     Reconnect or repair the connector     Replace harness     Replace pump
dE	Connect other doorlock switch and check the lid sensing by magnet	Replace the doorlock switch or PCBA
dL	<ol> <li>Check the doorlock switch trying locking</li> <li>Check the balance of the lid.</li> </ol>	If trying, replace the doorlock switch.     Or not trying replace the PCBA     Replace the door or set the balance
FE	Check the Water level     (1) Power on and run     (2) Press the SPIN SPEED & DELAY WASH     Check the valve	If segment is displayed under 10, replace the PCBA     Replace the valve
tE	<ol> <li>Check the connector of PCBA (YL2) or thermistor or connection connector</li> <li>Check the cutted connection from PCB to thermister by tester</li> </ol>	Reconnect or repair the connector     Replace harness
PE	<ol> <li>Check the Presure Sensor (21~23 Ω ±10%) and connection</li> <li>Check the Connector (BL6)</li> </ol>	Reconnect or repair the connector
LE	<ol> <li>Check the connector of PCBA (GY3, BL3) or motor connector or connection connector</li> <li>Check the magnet for Rotor</li> <li>Check the Rotor Resistance (GY3) 5 to 15 Ω (U-V, V-W, W-V :U=1, V=2, W=3)</li> </ol>	<ol> <li>Reconnect or repair the connector</li> <li>Replace the rotor.</li> <li>Replace the stator.</li> </ol>
LE1	Check Foreign objects, such as coins, pins, clips, etc., being caught between the wash plate and the inner basket.	<ol> <li>Turn off the washer and then press the Power button.</li> <li>Press the spin speed button without selecting a cycle to drain and spin the load.</li> <li>When the spin is complete, remove the clothes and then find and remove any objects caught in the wash plate.</li> </ol>
No Power	Check the fuse for noise filter and PCBA by tester     Check the IPM     Check the Short between top switch     Heatsink and GY pin by Tester	<ol> <li>If the beep sounds, the fuse is OK.         If no beep, change the noise filter, including the fuse.     </li> <li>If beep sound, replace the PCBA.</li> </ol>

#### **DRAIN ERROR**

Yes

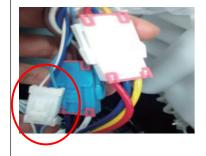
Is OE displayed?

ີ Yes ົຼ

Is the connector connected to pump motor assembly disconnected or disassembled?



**Drain pump** 



**Connection connector** 

J No ∫

When you enter the SVC Mode, is the water level frequency below 26.0 kHz?

Check the AIR CHAMBER, the tube (clogged), and press switch

Yes

Reconnect or

repair the

connector



No

Is the coil of the drain pump too high or low? (resistance of the coil is  $1.5-4\Omega$ )



Replace the DRAIN PUMP ASSEMBLY.

Yes

Yes

Replace the MAIN PCB ASSEMBLY.

[Note] Environmental check list

- 1) The drainage hose must not stay in a lower position
- 2) The drainage hose must not be bent or clogged in any way due to the surrounding physical configuration
- 3) The drainage hose must not get frozen at all times.
- 4) The drainage pump must not have any improper substance or material inside that may cause a machine breakdown.

#### **LOCKED MOTOR ERROR**

Yes

Is LE displayed?

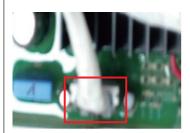
Ų Yes ∫

Check the connectors below.

Is the connector disconnected or disassembled?

(motor hall sensor connector, motor drive connector)

- Part of main PCB assembly (GY3)

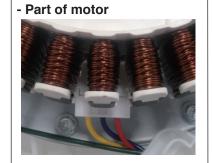


**Motor Drive** 

- Part of wire

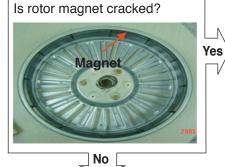


Reconnect the connector (connector / wire / motor )



No

Motor



Replace the ROTOR

Is the resistance values in the range of 5 to 15  $\Omega$ ? (U-V, V-W, W-V

:U=1, V=2, W=3)

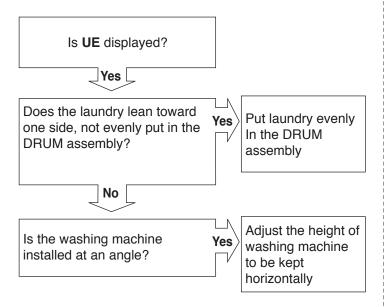
- After pull out the GY3 connector, check the terminal of the connector in wire.



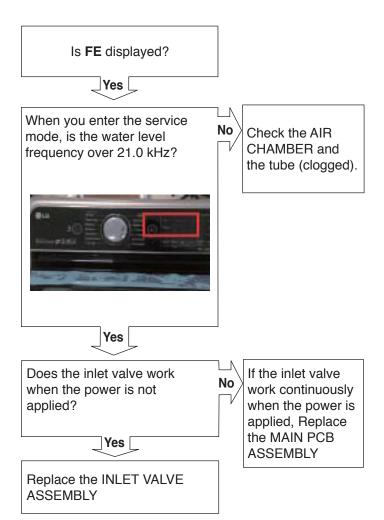
Replace the MAIN PCB ASSEMBLY.

No Replace the STATOR

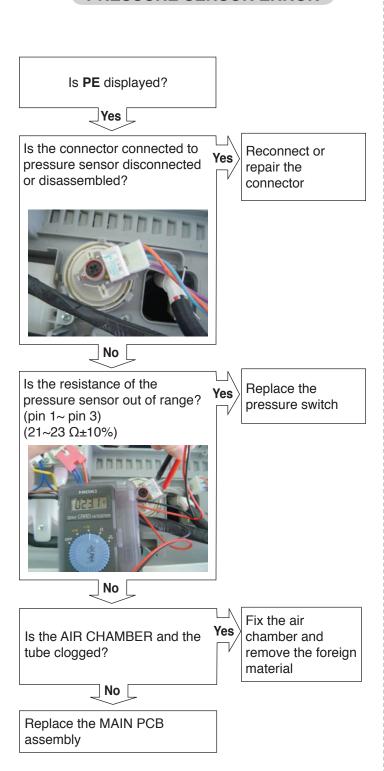
#### **UNBALANCE ERROR**



#### **OVER FLOW ERROR**



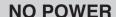
#### PRESSURE SENSOR ERROR

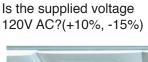


#### 4-8. OTHER TROUBLESHOOTING

## **A** CAUTION

- 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 PCB assembly, reinsert the connectors correctly.





Check the fuse or No reset the circuit breaker



Yes

Is the current rating of multioutlet power strip enough? (Avoid connecting several electric devices)





Yes

Is the connector connected to PCB/Noise filter disconnected or disassembled?



Yes

Alternate with explanation

No

No

Reconnect or repair the connector



Replace the MAIN **PCB ASSEMBLY** 

Replace the

**ASSEMBLY** 

DISPLAY PCB

Yes

Is three pin wire of display PCB broken?

No

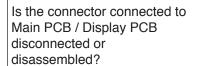


**Display PCB** 



**Connecting connector** MAIN PCB~ Display PCB

## **POWER BUTTON DOESN'T WORK**





Yes

Reconnect or repair the connector



Connecting connector Main PCB~ Display PCB

□ No □

Is the button of panel stuck?



Repair the button



」No □

Is the display PCB broken? (check the buzzer sound and LED light while touch the LCD)

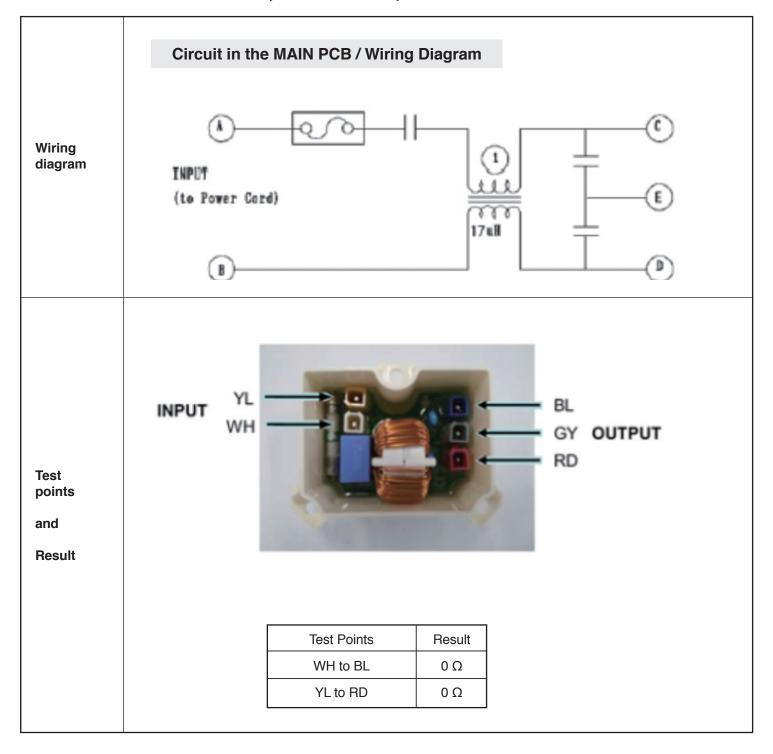


Replace the DISPLAY PCB ASSEMBLY

# 5. COMPONENT TESTING INFORMATION

**WARNING** When resistance (Ohm) checking the component, be sure to turn the power off, and do voltage discharge sufficiently.

# 5-1. FILTER ASSEMBLY (LINE FILTER)



#### 5-2. DOOR LOCK SWITCH ASSEMBLY

# PCB Diagram PCB Diagram A.7K A.7K Door lock.2 Door lock.2 Door lock.2 Door lock.2 Right A.7K B. Golf Policy A.7K B. Golf Policy B

The Door Lock Switch Assembly consists of a DC Motor, a Bimetal, a Protection PTC, Sensing Point. It locks the door during a wash cycle.

#### 1. Operation for door closing

- After the system turns on, Micom sending motor locking signal.
- 12V motor is working.
- Spring that connected with motor shaft is working.
- The hook that connected with spring is pushed out.
- Door lock is detected when switch sensing point is detected lock position.
- The motor stop.
- Door locked

The maximum, allowable number of impulse authorizations is 3

- Upon the third authorization of the impulse, the position of hook goes back to the door-open position.
- Authorizing the impulse occurs in 4.5 seconds upon input for max performance and two authorization processes are allowed at most.

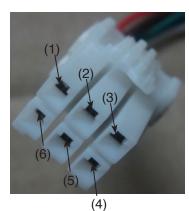
#### 2. Operation for door opening

- With a temporary stop, door automatically opens by hook moving after micom send open signal and the power turns off maximum of 3 times of the authorizing period
- Upon the fourth authorization of the impulse, the position of CAM goes back to the door-close position.

#### Function

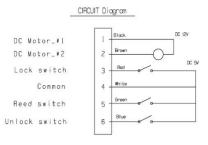
Wiring diagram





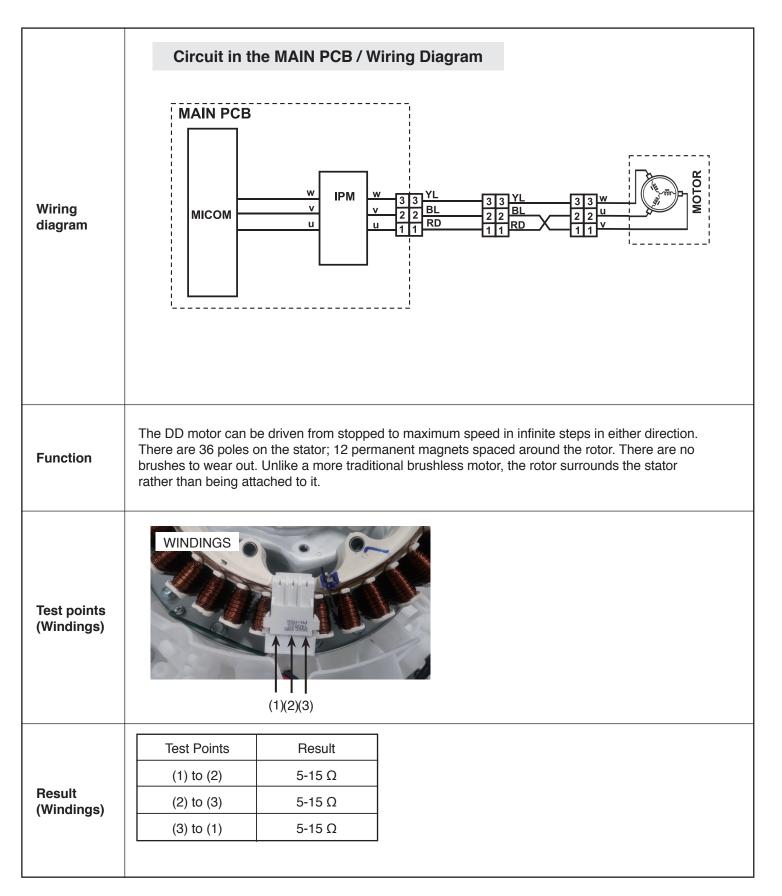
Test points

#### Result



Test Points	Result
(1)To (2) (1)-Black / (2)-Brown	33 ~ 46 Ω
(4) To (5) (4)-White / (5)-Green	9 ~ 11 AT

#### 5-3. STATOR ASSEMBLY

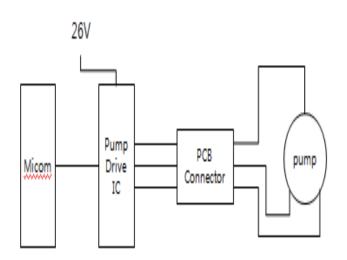


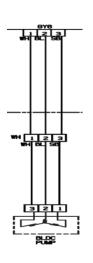
## 5-4. PUMP MOTOR ASSEMBLY

#### Circuit in the MAIN PCB

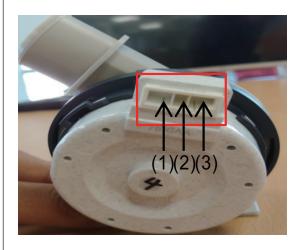
# Wiring Diagram

Wiring diagram





\* Each circuits of loads in wiring diagram are all same.



 Test Points
 Result

 (1) to (2)
 1.5 - 4Ω 

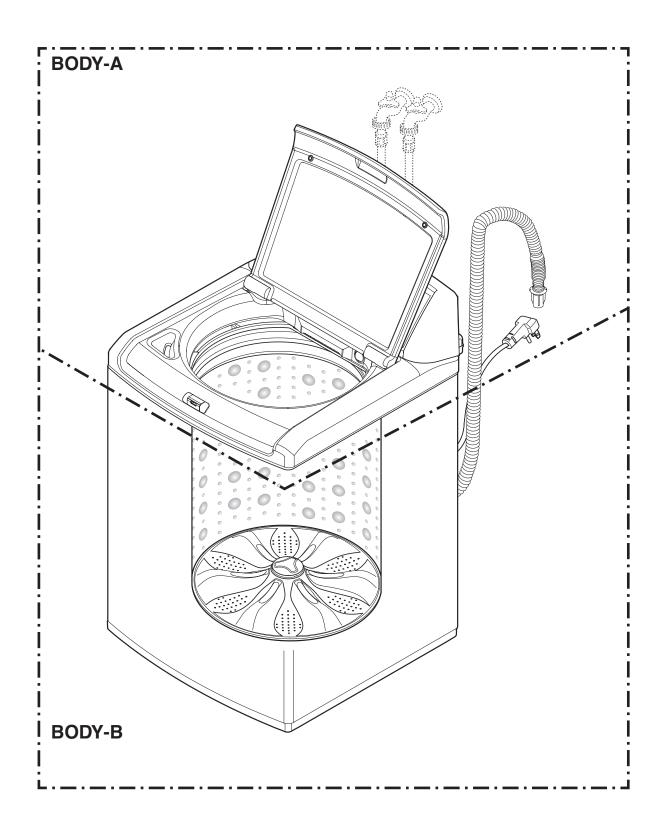
 (2) to (3)
 1.5 - 4Ω 

 (3) to (1)
 1.5 - 4Ω

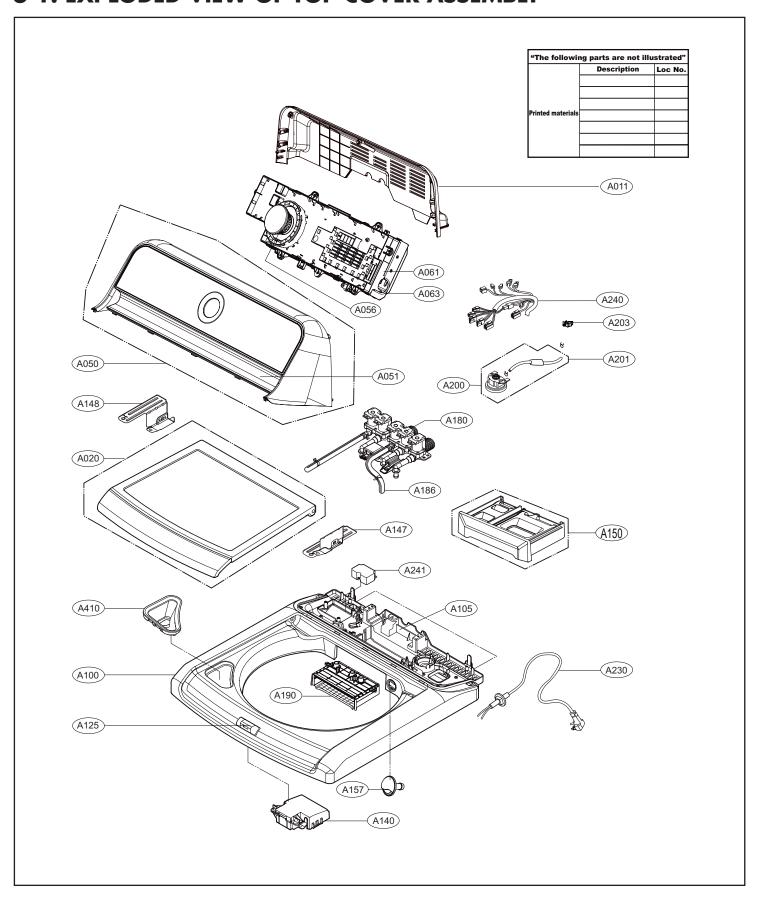
Test points and Result

#### 5-5. INLET VALVE ASSEMBLY

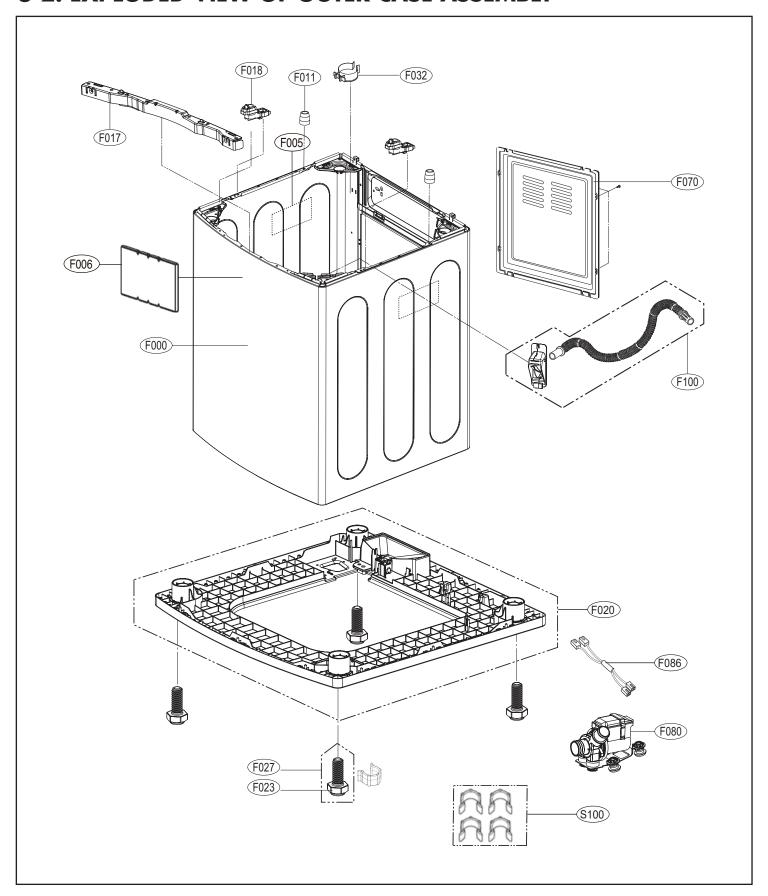
## Circuit in the MAIN PCB 15.8V INLET SWITCH PCB Micom V/V Connector If not work check below. Valve on : valve connector 6~8V Valve off: valve connector 0v Wiring diagram Wiring diagram RD6 2 6 BN OR BK BL ВL ВL ВL JET SPRA HOT \* Each circuits of loads in wiring diagram are all same. Depending on the cycle and water temperature, the controller will energize the hot or cold water **Function** valve solenoids to meet the selected water temperature. After unplugging the connector of the defective valve, check the resistance. **Test** Test points (1)-(2)**Points** and 23~34Ω Result Result



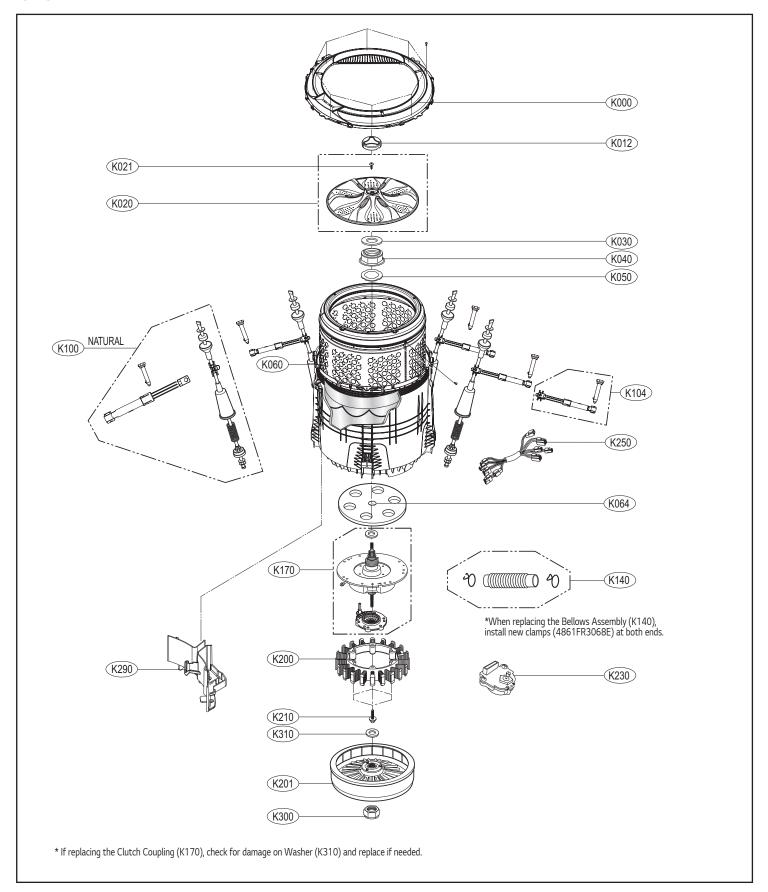
# 6-1. EXPLODED VIEW OF TOP COVER ASSEMBLY



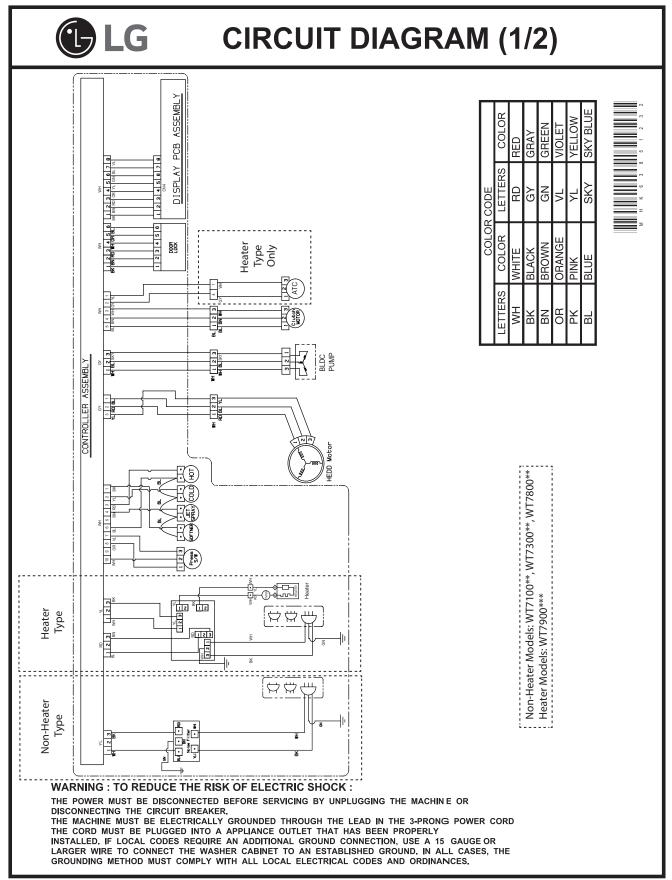
# 6-2. EXPLODED VIEW OF OUTER CASE ASSEMBLY



# 6-3. EXPLODED VIEW OF TUB ASSEMBLY



## 7. WIRING DIAGRAM





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