LG

WASHING MACHINE
SERVICE MANUAL

⚠ CAUTION

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

MODEL: WM3360H*CA

LG

CONTENTS

1. SPECIFICATIONS

| ITEM		WM3360H*CA
COLOR		W : BLUE White, V : STAINLESS SIVER, R : CANDY APPLE RED
POWER SUPPLY		AC 120 V, 60 Hz
PRODUCT WEIGHT		Product weight : 192lb (87kg)
ELECTRIC POWER CONSUMPTION	WASHING	280 W
	DRAIN MOTOR	80 W
	WASH HEATER	1000 W
REVOLUTION SPEED	WASH	46 rpm
	SPIN	0~1,200 rpm
CYCLES		Cycle : 12
WASH/RINSE TEMPERATURES		5
SPIN SPEEDS		5
OPTIONS		STEAM, COLD WASH, DELAY WASH, PREWASH, FRESH CARE, EXTRA RINSE, STAIN CARE
WATER CIRCULATION		Incorporated
OPERATIONAL WATER PRESSURE		14.5-116 psi (100-800 kPa)
CONTROL TYPE		Electronic
WASH CAPACITY [cu.ft.]		3.89 (4.5 IEC)
DIMENSIONS		27"(W) X 29^3/4"(D) X 38^{11}/16"(H), 51"(D, door open)
DELAY WASH		up to 19 hours
DOOR SWITCH TYPE		PTC + Solenoid
WATER LEVEL		10 steps (by sensor)
LAUNDRY LOAD SENSING		Incorporated
ERROR DIAGNOSIS		Incorporated
AUTO POWER OFF		Incorporated
CHILD LOCK		Incorporated
STEAM		Incorporated

2. FEATURES & TECHNICAL EXPLANATION

2-1. FEATURES

■ Ultra Capacity

The larger drum enables not just higher head drop and stronger centrifugal force, but also less tangling and wrinkling of the laundry. Heavier loads, such as king size comforters, blankets, and curtains, can be washed.

■ Direct Drive System

The advanced brushless DC motor directly drives the drum without belt and pulley.
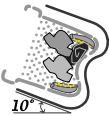
■ Tilted Drum and Extra Large Door Opening

Tilted drum and extra large opening make it possible to load and unload clothing more easily.

■ Steam Washing and SteamFresh™

Steam washing features upgraded washing performance with low energy and water consumption. SteamFresh™ cycle removes wrinkles from dry clothes.

■ Automatic Wash Load Detection

Automatically detects the load and optimizes the washing time.

■ Built-in Heater

Internal heater helps to maintain water temperature at its optimum level for selected cycles.
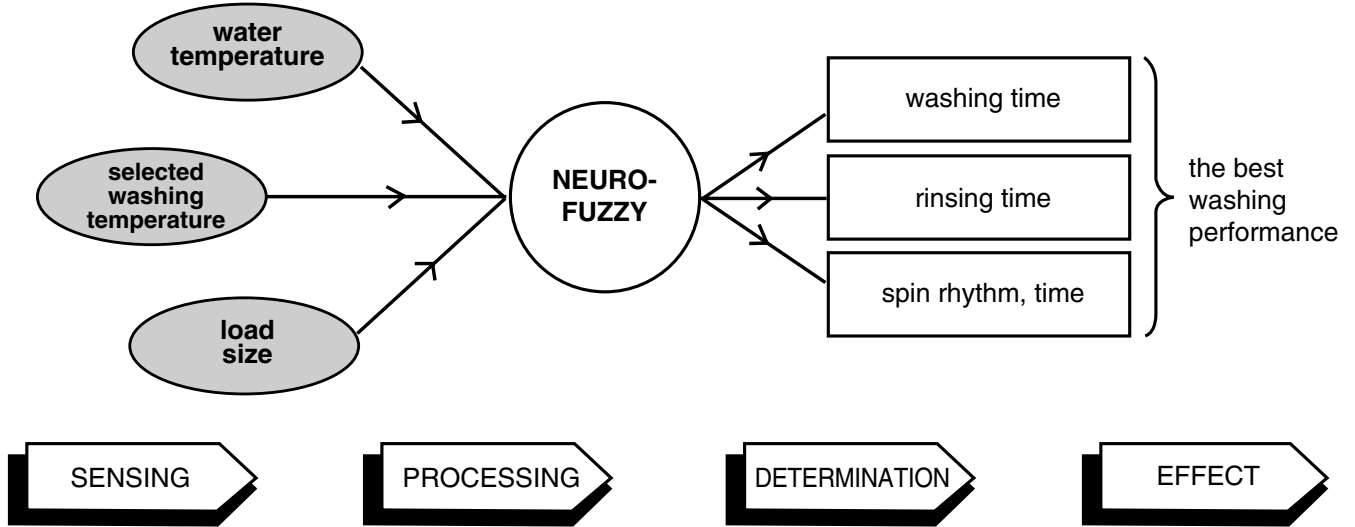
■ Child Lock

The child lock prevents children from pressing any button 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.

● White the motor is in the process of inertial 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 STAIN CARE 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 controls of the washer while washing.

● CHILD LOCK lasts after the end of cycle. If you want to deactivate this function, Press and hold the STAIN CARE button for 3 seconds.

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.

2-9. STEAM

● For tough stained clothes, sick room linens, or baby clothes.

● Steam Wash is available with Sanitary, Bulk/Large, Perm. Press, Cotton/Normal, and Baby Wear cycles.

● This option features upgraded washing performance with low energy and water consumption.

● Do not load delicates such as wool, silk, and easily discolored clothes.

3. PARTS IDENTIFICATION

Shipping Blots

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

Control Panel
Door Cleaning Nozzle
Water Circulation & Steam Nozzle
Drum Light
Drum
Door Seal

Door

Lower Cover Cap

Drain Plug

Drain Pump Filter

Hoses (1 Hot and 1 Cold)
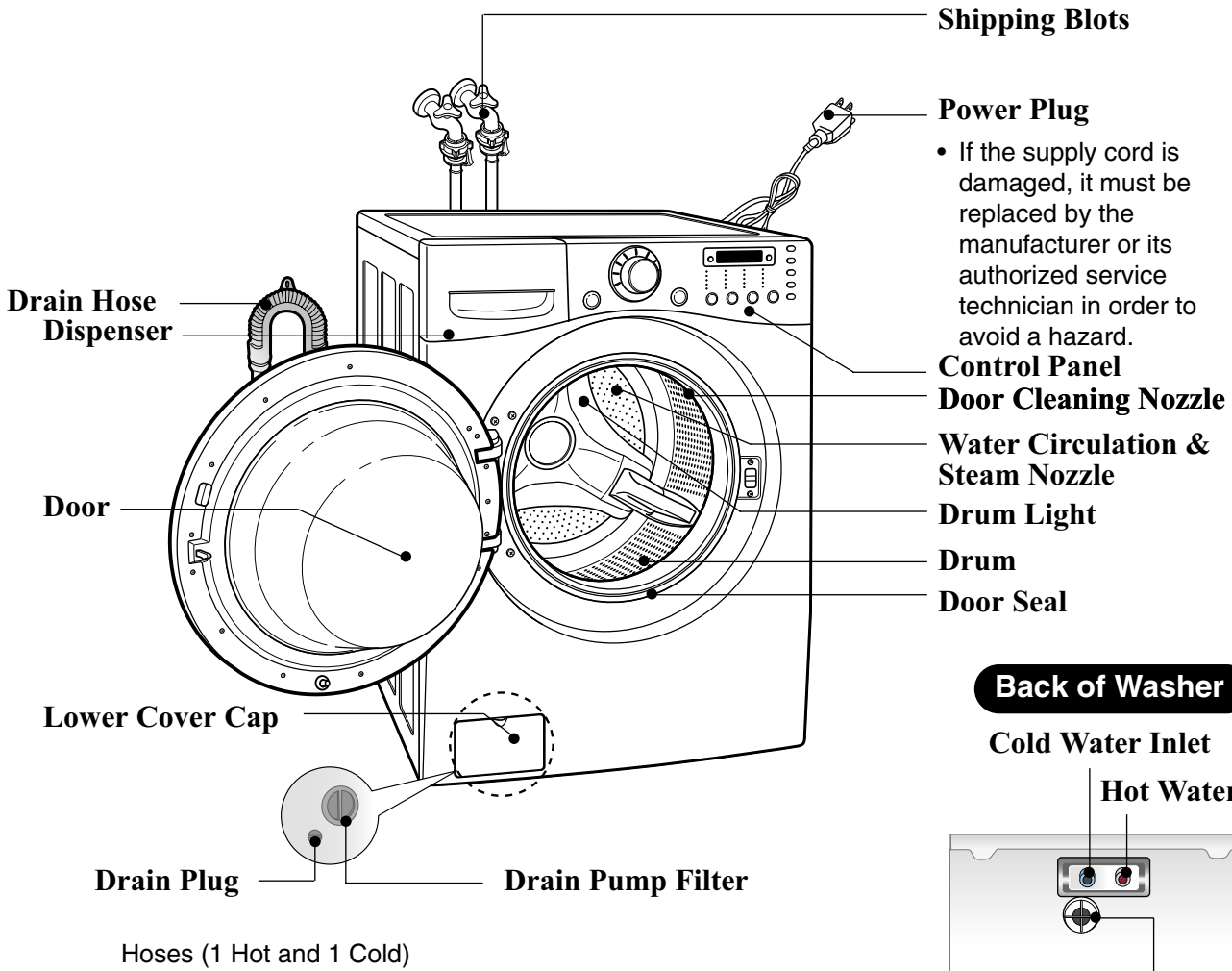
Back of Washer

Cold Water Inlet
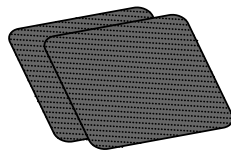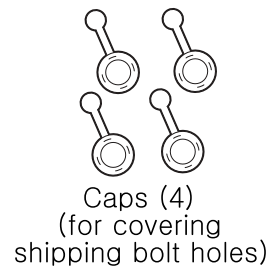**Hot Water Inlet**
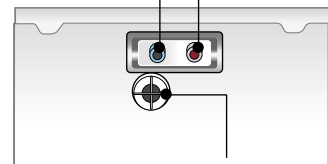
Air Vent for Safety

■ ACCESSORIES
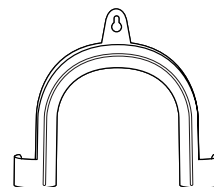
Hot and Cold
Water Hoses

Non-skid pads

Caps (4)
(for covering
shipping bolt holes)

Wrench (for removing
shipping bolts and
adjusting and
locking leveling feet)

Tie Strap
(for securing
drain hose)

Elbow Bracket
(for securing
drain hose)
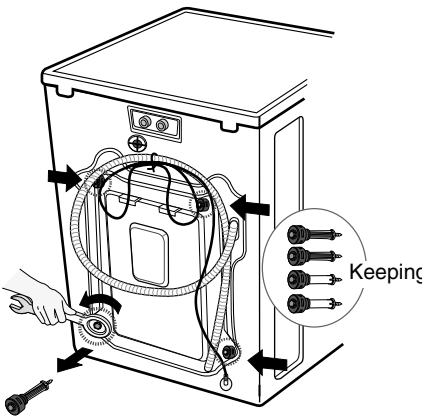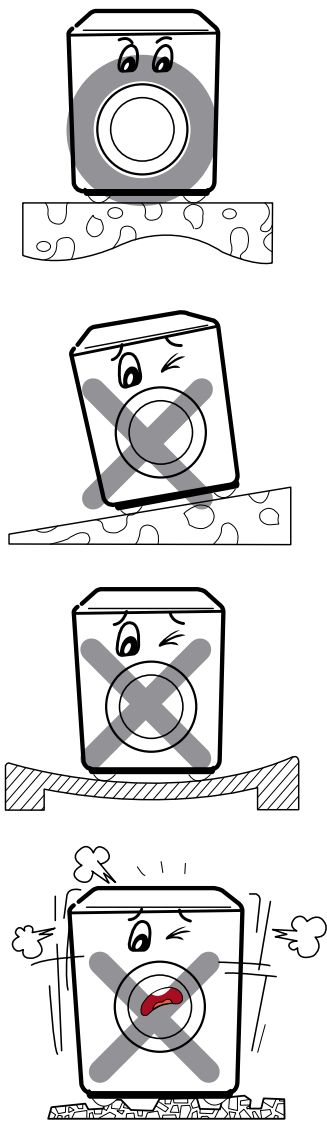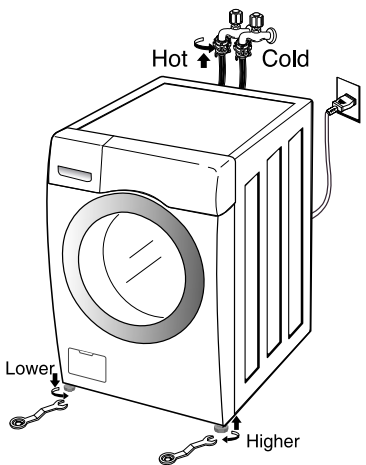
4. INSTALLATION & TEST

[1] Before servicing, ask the customer what the trouble is.
[2] When installing or repairing the washer, put on long gloves and safety glasses.
[3] Check the setup (power supply is 120 V$_{AC}$, remove the transit bolts, level the washer, etc.)
[4] Check with the troubleshooting guide.
[5] Plan your service method by referring to the disassembly instructions.
[6] Service the unit.
[7] After servicing, operate the appliance to see whether it functions correctly.

■ STANDARD INSTALLATION
  The appliance should be installed as follows:

REMOVE THE SHIPPING BOLTS	INSTALL THE APPLIANCE ON A FLAT AND FIRM SURFACE	ADJUST THE LEVELING
• Remove the 4 shipping bolts with the supplied wrench. ※Remove the lower boits fist. It is easier that way. • Keep the shipping bolts and spanner for future use. • Insert the 4 caps (provided) into the hole. Keeping		• Turn the leveling feet to adjust the appliance. Hot Cold / Lower / Higher • Turn clockwise to raise; counterclockwise to lower.

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■ 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.
- Install the inlet hose to correct temperature water tap.
  Otherwise, it cause drips on the drawer panel handle and drawer panel.
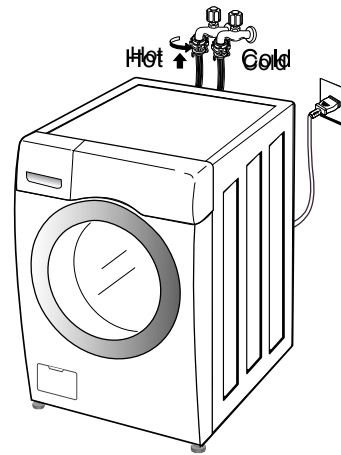
■ CONNECT THE DRAIN HOSE
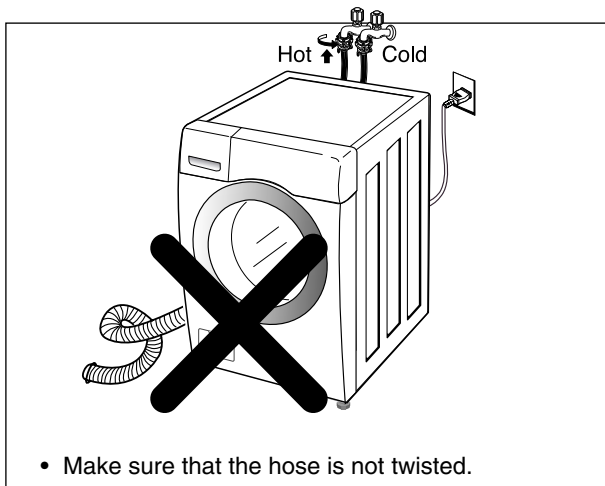
- Make sure that the hose is not twisted.
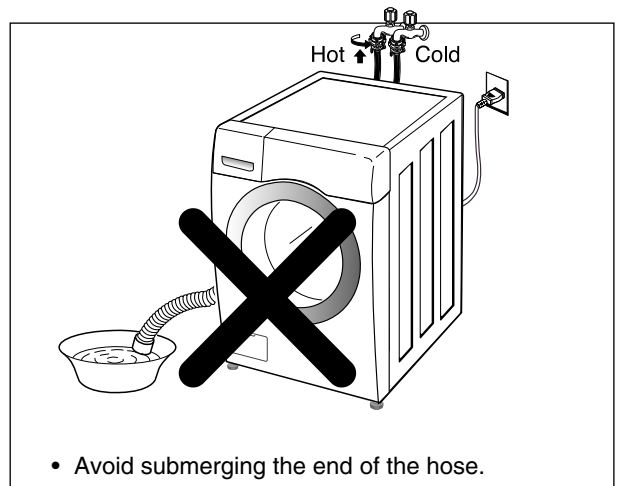
- Avoid submerging the end of the hose.

※ The end of the drain hose should be placed less than 96" from the floor.

■ CONNECT POWER PLUG
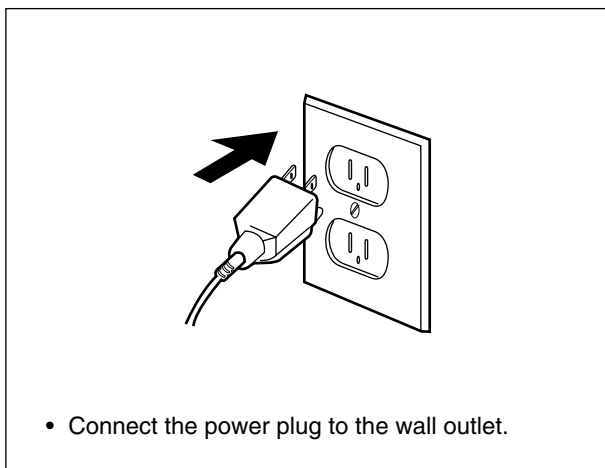
- Connect the power plug to the wall outlet.
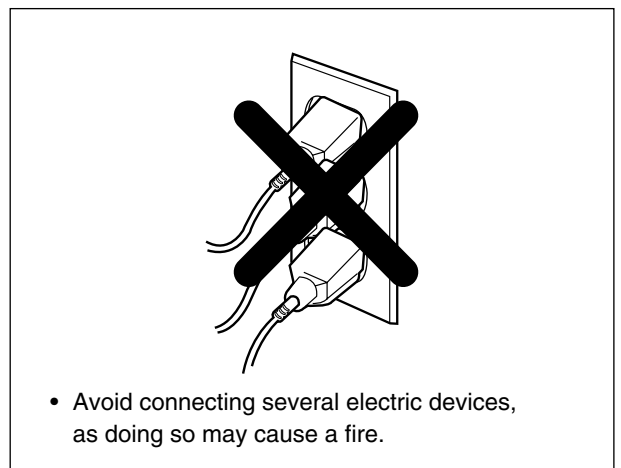
- Avoid connecting several electric devices, as doing so may cause a fire.

7 TEST OPERATION

1 Preparation for washing.

Hot ↑ Cold

- 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.

6 Check the water heating function.

Hot ↑ Cold

- Press the WASH/RINSE button and the present temperature will be displayed.

5 Check the automatic reverse rotation.

Hot ↑ Cold

- Check if the drum rotates clockwise and counterclockwise.

4 Check the water supply.

- Check if water is supplied through the detergent dispenser.

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 SERVICE is needed during check, remove the remaining water by pulling out the hose cap.

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5. OPERATION

5-1. CONTROL PANEL FEATURES

■ **WM3360H*CA**

Power Button

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

Status Indicator

- It shows elapsed time of the cycle the washer is operating.

*STEAM CYCLE

PERM.PRESS

BULKY/LARGE

BRIGHT WHITE™

SANITARY

ALLERGIENE™

STEAM FRESH™

COTTON/NORMAL

HEAVY DUTY

DELICATES

HAND WASH/WOOL

SPEED WASH

RINSE+SPIN

SMART DIAGNOSIS™
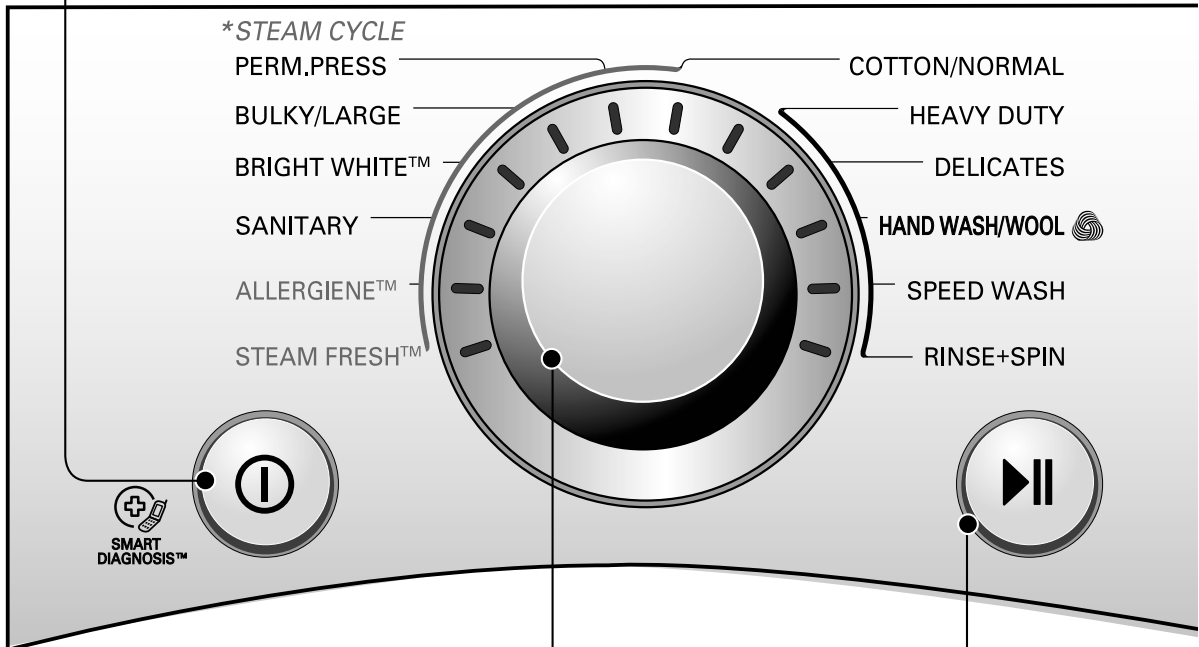
Cycle Selector Knob

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

Start/Pause

- Use this button to Start/Stop the washer.

Option Button

- **STEAM:** Use the STEAM button to add steam to the cycle for the extra cleaning.
- **PRE-WASH:** Use the PREWASH button to select to wash temporary before to start the course which you chosen.
- **DELAY WASH:** Once you have selected the cycle and other settings, press this button to delay the start of the wash cycle.
- **COLDWASH^{TM} :** Use this function to wash without hot water and heating.
- **EXTRA RINSE :** This option will add an extra rinse cycle to the selected cycle.
- **STAIN CARE :** Select this option for heavily stained clothes, such as play clothes or work clothes.
- **CHILD LOCK :** Use this option to prevent unwanted use of the washer or to keep cycle settings from being changed while the washer is operating.
- **FRESH CARE :** Use this function when you are not able to unload your clothes, son after the wash cycle ends.

PROCESSING

EST. TIME REMAINING

LOAD SENSING WASH RINSE SPIN

STEAM

COLD WASH™

18:88

DELAY WASH

PRE WASH ＊CHILD LOCK

FRESH CARE

EXTRA RINSE

STAIN CARE ＊TUB CLEAN

○ EXTRA HOT/COLD	○ EXTRA HIGH	○ HEAVY	○ HIGH
○ HOT/COLD	○ HIGH	○ ▼	○ ▼
○ WARM/WARM	○ MEDIUM	○ NORMAL	○ LOW
○ WARM/COLD	○ LOW	○ ▼	○ ▼
○ COLD/COLD	○ NO SPIN	○ LIGHT	○ OFF

WASH/RINSE SPIN SPEED SOIL LEVEL SIGNAL

— OPTION —
＊Press & Hold 3sec.
for Extra Functions

TrueBalance™
ANTI-VIBRATION SYSTEM

Wash/Rinse, Spin speed, Soil Level, Signal 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.
- Press repeatedly to adjust the volume of the Beeper.

5-2. Cycle Guide

The cycle guide below shows the options and recommended fabric types for each cycle.

● =Available option

CYCLE	FABRIC TYPE	WASH/RINSE TEMP.	SPIN SPEED	SOIL LEVEL	PRE-WASH	EXTRA RINSE	STAIN CARE	WATER PLUS	STEAM	COLDWASH™	WASH/RINSE OPTIMIZER™
STEAM FRESH™	Dress shirts, blouses								●		
SANITARY	Heavily soiled underwear, work clothes, diapers, etc.	Extra Hot/Cold	High	Normal	●	●	●	●	●		●
			Extra High No Spin Low Medium	Heavy Light							
BULKY/ LARGE	Large items such as blankets and comforters	Warm/Cold	Low	Normal	●	●	●	●	●	●	●
		Warm/Warm Hot/Cold Cold/Cold	Medium No Spin	Heavy Light							
PERM. PRESS	Dress shirts/pants, wrinkle-free clothing, poly/cotton blend clothing, tablecloths	Warm/Cold	Medium	Normal	●	●	●	●	●	●	●
		Warm/Warm Hot/Cold Cold/Cold	High No Spin Low	Heavy Light							
COTTON/ NORMAL	Cotton, linen, towels, shirts, sheets, jeans, mixed loads	Warm/Cold	High	Normal	●	●	●	●	●	●	●
		Hot/Cold Cold/Cold	Extra High No Spin Low Medium	Heavy Light							
ALLERGIENE™	Cotton, underwear, pillow covers, bed sheets, baby wear		High			●		●	●		
			Extra High No Spin Low Medium								
HEAVY DUTY	Heavy soiled Cotton Fabrics	Warm/Cold	Extra High	Heavy	●	●	●	●	●	●	●
		Warm/Warm Hot/Cold Cold/Cold	No Spin Low Medium High	Light Normal							
TOWELS	Towels	Warm/Cold	Extra High	Normal	●	●		●	●	●	
		Warm/Warm Hot/Cold Cold/Cold	No Spin Low Medium High	Heavy Light							
HAND WASH/ WOOL	Items labeled "hand-washable"	Warm/Cold	Low	Normal						●	
		Warm/Warm Cold/Cold	No Spin	Light							
DELICATES	Dress shirts/blouses, nylons, sheer or lacy garments	Cold/Cold	Medium	Normal	●	●		●		●	
		Warm/Cold Warm/Warm	No Spin Low	Heavy Light							
SPEED WASH	Lightly soiled clothing and small loads	Hot/Cold	Extra High	Light		●				●	
		Cold/Cold Warm/Cold Warm/Warm	No Spin Low Medium High	Normal Heavy							
RINSE + SPIN	Rinse and Spin	Cold/Cold	High			●		●			
			Extra High No Spin Low Medium								
BRIGHT WHITES™	White Fabrics	Hot/Cold	High	Normal	●	●	●	●	●		
		Cold/Cold Warm/Cold Warm/Warm	Extra High No Spin Low Medium	Heavy Light							
TUB CLEAN+	This cycle is designed to remove a mildewy or musty smell.								●		

NOTE: To protect your garments, not every wash/rinse temperature, spin speed, soil level, or option is available with every cycle.

5-3. SPECIAL FUNCTIONS

The option buttons also activate special functions, including CHILD LOCK, DRUM LIGHT, FRESH CARE, and LANGUAGE. Press and hold the option button marked with the special function for 3 seconds to activate.

CHILD LOCK

Use this option to prevent unwanted use of the washer or to keep cycle settings from being changed while the washer is operating. Press and hold the PREWASH button for 3 seconds to activate or deactivate the child lock function.

The child lock indicator will be shown in the display, and all buttons are disabled except the ON/OFF button.

NOTE: CHILD LOCK lasts after the end of cycle. If you want to deactivate this function, Press and hold the STAIN CARE button for 3 seconds.

TUB CLEAN

A buildup of detergent residue can occur in the wash tub over time and can lead to a mildewy or musty smell. The TUB CLEAN cycle is specially designed to remove this buildup. After the cycle has ended, safely and conveniently secure the door slightly ajar with a magnetic door plunger to keep the door open. This will promote air circulation and allow the interior of the machine to dry.

NOTE: Do NOT use this cycle with clothes, and do NOT add detergent or fabric softener.

NOTE: If you use the TUB CLEAN cycle on a monthly basis, the wash drum will be kept clean.
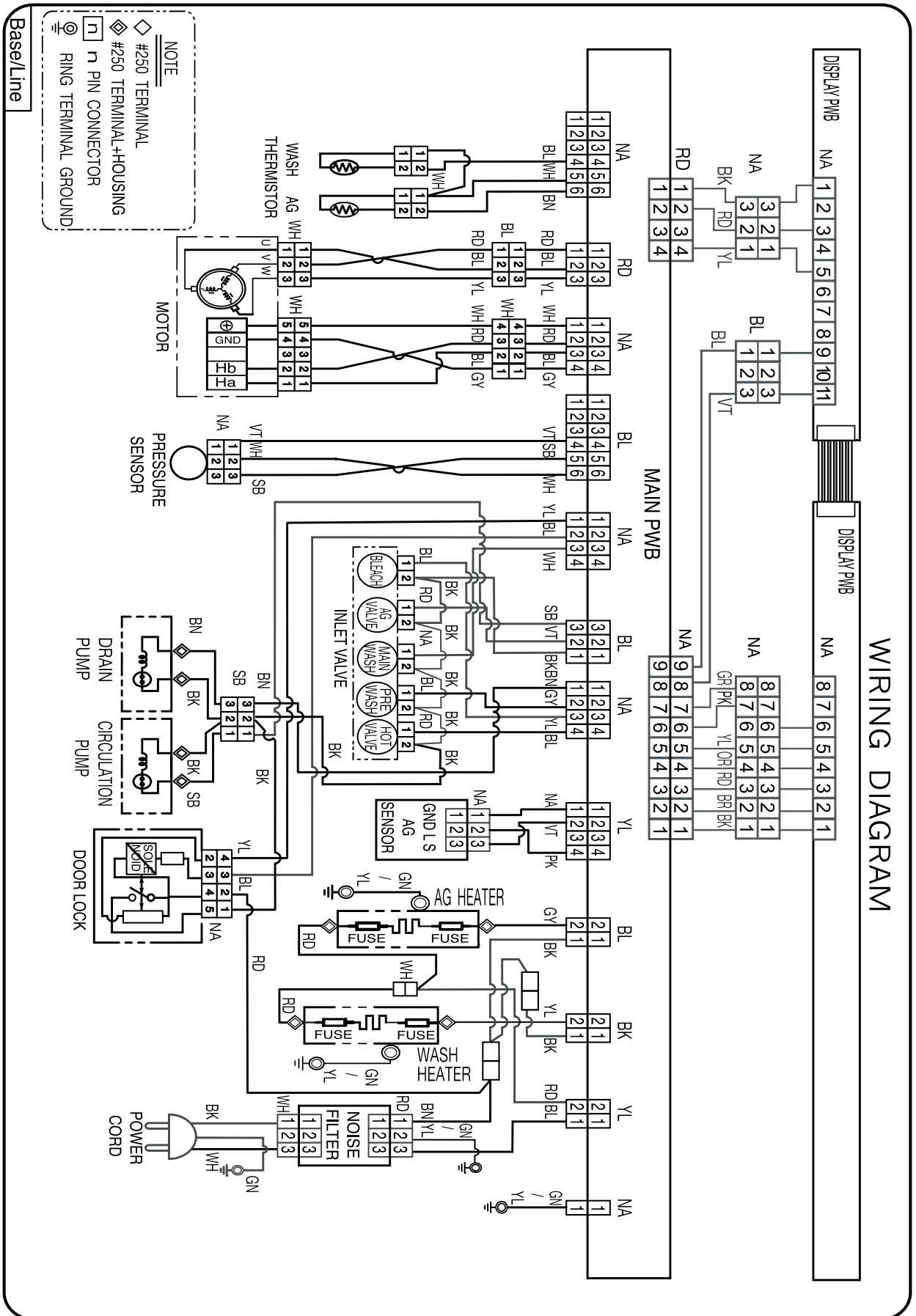
5-4. Explanation of each process

No.	Process	Explanation
1.	Stay	• Electrical power is supplied. • Washer is ready to work and the micom is in the active mode.
2.	Water supply	• After loading laundry and selecting a course and a cycle, water is supplied and drum rotates. • When a user selects Pre-wash course, water is supplied through pre wash valve.
3.	Soaking and washing laundry	• To get laundry wet, drum rotates clockwise and counterclockwise. • If water amount is insufficient at this time, the Inlet valve will supply water again.
4.	Heating and washing	• The heater heats the water in drum to the selected water temperature and drum rotates for washing.
5. 6.	Washing and heating / washing	• When the water temperature reaches to the selected temperature, the heating stops and only the drum rotates. • If water temperature becomes lower than selected because of re-supplied water, the heating starts again.
7.	Washing	• Fuzzy logic decides washing time according to the laundry load, water temperature, and other factors.
8.	Drainage	• A pump motor drains the water from the drum. • After sensing drained water amount by water level frequency, spin starts. • When a heating course is selected, stay cooling process is performed to decrease the water temperature gradually to prevent laundry from being damaged and for safety reasons.
9.	Untangling (Sensing eccent- ricity)	• It balances laundry load and senses the eccentricity of the load, to only allow spinning without vibration. • If the eccentricity is worse than the allowed level, it repeats the disentangling process. When the repeated time is more than allowed level, it displays UE. • If the eccentricity is good, the intermittent spin starts. • During this process, the drain pump works for drainage intermittently.

No.	Process	Explanation
A.	Intermittent spin	• To reach the correct set speed, the motor rotates clockwise and counterclockwise directions after spin process starts. • If the water level frequency is lower than 23.0 kHz, a washer senses suds and starts suds removal process.
B.	Rinse spin	• In this process, the remaining water during washing process is extracted and the selected speed is kept. • Removing suds process is in active mode at this cycle.
C.	Remaining spin	• After spin finishes, the drum rotates by remaining spin power until it stops. Motor power is off. • This process is overlapped with next process.
D.	Rinse water supply	• Water supply for rinse process.
E.	Rinse	• Rinsing process.
F.	Last drainage	• After spin finishes and power is not supplied to motor, the drum rotates by remaining spin power. • If rinse hold is selected, the drainage is not proceeded after rinse finishes.
G.	Disentangling	• The same as item 9.
H.	Intermittent spin	• The same as item A.
I.	Main spin1	• The same as item B.
J.	Main spin2	• At the end of a main spin, the spin speed will reach the selected rpm.
K.	Remaining spin	• The same with item C.
L.	Disentangling	• After spin finishes, disentangling starts to remove unbalanced laundry.
M.	End	• After 'end' signal is displayed, it stays for 8 seconds and power is automatically turned off. (Auto type door switch) • After door switch is off, end signal is displayed in the case of manual type and it takes around 2 minute to turn off door switch.

PROGRAM CHART

* Water Supply: W-S   * Intermittent Spin: I-S   * Disentangle: D-T

CYCLE \ COURSE / STEP / TIME(SEC)	Wash – Pre					Wash – Main (Wash)		Wash – Main (Cool-down)			Rinse – Normal 1				Rinse – Normal 2				Rinse – Normal 3				Rinse – Extra Rinse 4				Spin			END	AUTO OFF	**Approx. Working Time (Minutes)
	W-S	Wash	Drain	I-S	W-S	Heat	Wash	W-S	Rinse	Drain	Drain	I-S	W-S	Rinse	Drain	I-S	W-S	Rinse	Drain	I-S	W-S	Rinse	Drain	I-S	W-S	Rinse	Drain	Spin	D-T			
Step No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
TIME (SEC)	60	*	60	420	60		*	60	60	60	60	600	120	240	60	420	120	240	60	420	120	240	60	420	120	240	60	360 ~ 720		20	20	
Steam Refresh							59																									20
Sanitary		8		15			65	1 TIME																								117
Bulky /Large		8		15			23																									69
Allergiene		8		15			70							120				120				120				120						110
Cotton /Normal		8		15			12																									66
Delicates		8		10			15																									54
Hand Wash /Wool							18																									56
Speed Wash							25							60				60				60				60						25
Perm. Press		8		17			2 / 14																									84
Bright Whites		8		17			20 / 15															120										76
Heavy Duty		8		17			21 / 40																									89
Rinse + Spin							55																									19

Legend:
- ▬ Basic Cycle
- ╪ Optional Cycle
- ● Pre-Setting Time : Water Supply – 60 sec.
  Drain – 60 sec.

* Wash time is in minutes.
** The total working time will vary with the load size, water temperature and ambient temperature.

7. TEST MODE

7-1. SAFETY CAUTION

■ There's built-in AC 120V and DC power in output terminal of PWB assembly in common. Be careful electric shock when disconnecting parts while trouble shooting. (Wear Electro Static Discharge gloves when working.)

■ After cutting off the power when changing PWB assembly, disconnect or assemble.

■ Be careful static when handling PWB assembly, and use Electro Static Discharge plastic pack when delivering or keeping it.
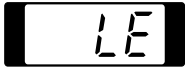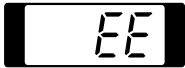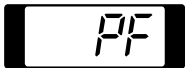
7-2. LOAD TEST MODE

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.

Number of times the Start/Pause button is pressed	Check Point	Display Status
None	Turns on all lamps and locks the door.	LOAD TEST MODE
1 time	Tumble clockwise.	Rpm (45~50)
2 times	Low speed Spin.	Rpm (55~60)
3 times	High speed Spin.	Rpm (118~120)
4 times	Inlet valve for prewash turns on.	Water level frequency (0~255)
5 times	Inlet valve for main wash turns on.	Water level frequency (0~255)
6 times	Inlet valve for hot water turns on.	Water level frequency (0~255)
7 times	Inlet valve for steam turns on.	Water level frequency (0~255)
8 times	Inlet valve for bleach turns on.	Water level frequency (0~255)
9 times	Tumble counterclockwise.	rpm (42~50)
10 times	Heater turns on for 3 seconds.	Water temperature
11 times	Circulation pump turns on.	Water level frequency (25~65)
12 times	Drain pump turns on.	Water level frequency (25~65)
13 times	Steam water level sensor operates.	AG tub water level frequency (0~255)
14 times	Steam heater turns on for 1.2sec.	Steam generator temperature
15 times	off	-

7-3. HOW TO CHECK THE WATER LEVEL FFREQUENCY

Press the WASH/RINSE and DELAY WASH button simultaneously.

☀ ☀ ☀
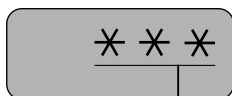
The digits indicate the water level frequency (x.1 kHz).

So, for example a display indicating 241: a Water level frequency of 241 x.1 kHz

= 24.1 kHz

8. TROUBLESHOOTING

8-1. SAFETY CAUTION

■ There's built-in AC 120V and DC power in output terminal of PWB assembly in common. Be careful electric shock when disconnecting parts while trouble shooting. (Wear Electro Static Discharge gloves when working.)
■ After cutting off the power when changing PWB assembly, disconnect or assemble.
■ Be careful static when handling PWB assembly, and use Electro Static Discharge plastic pack when delivering or keeping it.

8-2. ERROR MODE SUMMARY

• If you press the START/PAUSE button when an error is displayed, any error except [PE] will disappear and the machine will go into the pause status.
• In case of [PE], [tE], [dE] if the error is not resolved within 20 seconds, or the in case of other errors, if the error is not resolved within 4 minutes, power will be turned off automatically and the error code will blink. But in the case of [FE] power will not be turned off.

	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	**I E**	• Correct water level (24.6kHz) is not reached within 8 minutes after water is supplied or it does not reach the preset water level within 20 minutes.
2	UNBALANCE 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	**OE**	• Not fully drained within 10 minutes.

4	OVERFLOW ERROR	**FE**	• Water is overflowing.
			  (water level frequency is over 21.3kHz).
			  ※ If [FE] is displayed, the drain pump will operate to drain the water automatically.

5	PRESSURE SENSOR ERROR	**PE**	• The PRESSURE SENSOR ASSEMBLY is out of order. • When water level frequency maintain condition of below 10 kHz and over 30 kHz.
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.
7	HEATING ERROR	**tE**	• The THERMISTOR is out of order.

	ERROR	SYMPTOM	CAUSE
8	LOCKED MOTOR ERROR	*LE*	• 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.
9	EEPROM ERROR	*EE*	• EEPROM is out of order. ※Displayed only when the START/PAUSE button is first pressed in the Load Test Mode.
10	POWER FAILURE	*PF*	• After the power supply is stopped while washing machine is working, the power is supplied rapidly.

WM3360H*CA

**

※ Reference

Part Name : *

The part of this mark is only for steam models.

AG Sensor
YL. pin1: GND
pin2: S
pin4: L

Heater
BL, BK. pin4: Vac (input)
BL. pin3: steam generator heater (input)
BK. pin3: wash heater (input)
pin3: steam generator/ wash heater (output)
YL. pin4: Vac (output)

Pin1 to Pin2:
0Ω-1.2 kΩ

Heater: 12Ω-18Ω

Test Points	Result
WH (1) to RD (3)	0 Ω
WH (3) to RD (1)	0 Ω

Test Points	Result	Remarks	
(2) to (4)	700-1500Ω	At 77°F (25°C)	
(3) to (4)	60-90Ω	At 77°F (25°C)	
(4) to (5)	Infinity		
(2) to (4)	120 Vac	Voltage Input	

Display
pin3: GND
pin4: 12V
pin5: 5V

Pump
BL. pin3: circulation pump
NA. pin1: drain pump
BL. pin3 to NA. pin1
1. Pump running: 120V ± 5%
2. Stopped Motion Pump: 0-1V

Pump
Drain pump: 10-20 Ω
Circulation pump: 18-30 Ω

Inlet Valve
NA4. pin3: main wash
BL. pin1: common
pin2: AG valve
NA5. pin2: pre valve
pin3: bleach
pin4: hot valve

WIRING DIAGRAM

Test Points	Result	Remarks	
(1) to (2)	8-12 kΩ		
(1) to (3)	8-12 kΩ		
(1) to (4)	10-15 Vdc	Voltage Input	
(2) to (4)	10 Vdc	Pulsing Signal	
(3) to (4)	10 Vdc	Pulsing Signal	

Door Switch
NA. pin1: PTC
pin2: PTC

Test Points	Result	
(1) to (2)	5-15 Ω	
(2) to (3)	5-15 Ω	
(3) to (1)	5-15 Ω	

Motor
RD. pin1: U
pin2: V
pin3: W
NA. pin1: +
pin2: Hb
pin3: Ha
pin4: GND

WM3885H*CA / LSWF3885HVS

Thermistor
Pin4: wash thermistor
Pin6: wash heater

Lamp
Pin1: 16.5 V

Result (tolerance ± 5%)	Remarks
39.5 kΩ	At 86°F (30°C)
26.1 kΩ	At 104°F (40°C)
12.1 kΩ	At 140°F (60°C)
8.5 kΩ	At 158°F (70°C)
3.8 kΩ	At 203°F (95°C)
2.8 kΩ	At 221°F (105°C)

Result (tolerance ± 5%)	Remarks
39.5 kΩ	At 86°F (30°C)
26.1 kΩ	At 104°F (40°C)
12.1 kΩ	At 140°F (60°C)
8.5 kΩ	At 158°F (70°C)
3.8 kΩ	At 203°F (95°C)
2.8 kΩ	At 221°F (105°C)
2.1 kΩ	At 241°F (116°C)
1.4 kΩ	At 266°F (130°C)
1.0 kΩ	At 293°F (145°C)
0.7 kΩ	At 320°F (160°C)
0.4 kΩ	At 356°F (180°C)

DISPLAY PWB

MAIN PWB

DISPLAY PWB

NOTE
◇ #250 TERMINAL
◈ #250 TERMINAL-HOUSING
□ n PIN CONNECTOR
⊞ RING TERMINAL GROUND

Base/Line

NOISE FILTER

POWER CORD

WASH HEATER

FUSE

NO HEATER

AG SENSOR

INLET VALVE

MAIN VALVE
PRE VALVE
AG VALVE
BLEACH
HOT VALVE

CIRCULATION PUMP

DRAIN PUMP

DOOR LOCK

PRESSURE SENSOR

MOTOR

WASH THERMISTOR

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8-4. TROUBLESHOOTING WITH ERROR

INLET VALVE ERROR

Is [IE] displayed?

Yes ↓

When you press both **WASH/RINSE** button and **DELAY WASH** button simultaneously, is the water level frequency below 24.6 kHz? — **Yes** → Check the AIR CHAMBER and the tube (clogged).

No ↓

Is filter inlet valve clogged with foreign material? — **Yes** → Clean or replace the filter.

No ↓

Is the connector connected to inlet valve assembly disconnected or disassembled? — **Yes** → Reconnect or repair the connector.

No ↓

Is resistance between each terminal of INLET VALVE ASSEMBLY 0.8-1.2 kΩ?
(Refer to 9-5 inlet valve assembly.) — **No** → Replace the INLET VALVE ASSEMBLY.

Yes ↓

Is the voltage of the inlet valve connector 120 V AC? (Check the all terminal of INLET VALVE ASSEMBLY while the power is on.) — **Yes** → Replace the INLET VALVE ASSEMBLY.

No ↓

Is the connector connected to MAIN PWB assembly disconnected or disassembled?(NA2, NA4, BL3) — **Yes** → Reconnect or repair the connector.

No ↓

Is Electrical connection correct?
(Refer to 9-5 wiring diagram) — **No** → Replace the MAIN HARNESS.

Yes ↓

After checking connector, is the water level frequency below 24.6 kHz? — **Yes** → Check the PRESSURE SWITCH.

No ↓

Replace the MAIN PWB ASSEMBLY.

[Note] Environmental safety check list
1) No water tap leakage
2) No water tap freeze
3) No entanglement of water supply hose
4) No water shortage
5) No shrinkage on water supply hose due to a possible misuse of hot and cold water
6) No water supply hose leakage

DRAIN ERROR

Is [OE] displayed?

Yes

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

Yes → Reconnect or repair the connector.

Circulation pump

Drain pump

Connection connector

No

When you press both **WASH/RINSE** button and **DELAY WASH** button simultaneously, is the water level frequency below 25.0 kHz?

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

No

Is the coil of the drain pump too high or low? (resistance of the coil is 10-20Ω) (Refer to 9-4 Pump motor assembly.)

Yes → Replace the DRAIN PUMP ASSEMBLY.

No

Is the voltage between connectors out of range? (NA2 pin1~ BL3 pin1)
- After remove Terminal Position Assurance (TPA) of connector, check as follows.

Yes → Replace the MAIN PWB ASSEMBLY.

- Pump running : 120V±5%
- Stopped Motor/Pump : 0~1V

Method
1. Press the Power button, while the SPIN SPEED button and SOIL LEVEL button is pressed simultaneously.
2. Press Start/Pause button.
  : 1 time → Pump slow-speed running
  : 2 times → Pump mid-speed running
  : 3 times → Pump high-speed running
  : 4 times → Stop the Motor/Pump

[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.

HEATING ERROR

Is ⚠ **tE ERROR** displayed?

↓ **Yes**

Is the connector connected to heater disconnected or disassembled?

→ **Yes** → Reconnect or repair the connector.

Steam generator heater

Wash heater

↓ **No**

Is Check heater resistance out of range? (12~18 Ω)
(Refer to 9-6 Heater assembly.)

→ **Yes** → Replace the HEATER ASSEMBLY.

↓ **No**

Is the connector connected to thermistor disconnected or disassembled?

→ **Yes** → Reconnect or repair the connector.

Steam generator thermistor

Wash thermistor

↓ **No**

Is thermistor resistance out of range?
(about 39.5 kΩ at 30°C)
(Refer to 9-7 thermistor assembly.)

→ **Yes** → Replace the THERMISTOR ASSEMBLY.

↓ **No**

Check the trans of water infiltration into thermistor terminal.
- Does the water infiltrate thermistor terminal?

→ **Yes** → Replace the THERMISTOR ASSEMBLY.

[Note]
Chances that the cause occurs from the main controller are very little.
Sensing part of the circuit (tE) consists of only resistors and capacitors.

LOCKED MOTOR ERROR

Is ⚠ **LE ERROR** displayed?

Yes

Check the connectors below. Is the connector disconnected or disassembled? (motor hall sensor connector, motor drive connector.)

Yes → Reconnect the connector. (connector / wire / motor)

- **part of main PWB assembly (NA1, RD4)**
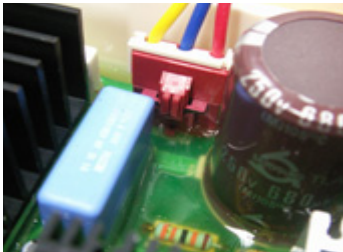
Motor Drive
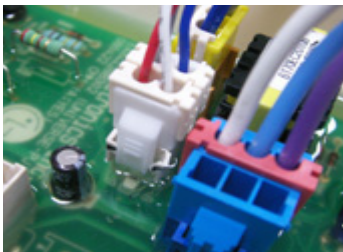
Hall sensor

- **part of wire**

Motor Drive   Hall Sensor

- part of motor
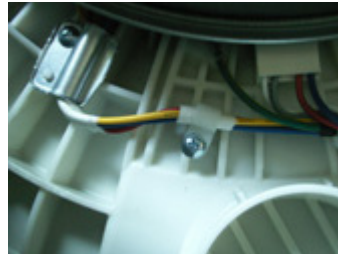
Motor

Yes

Is rotor magnet cracked?

Magnet

Yes → Replace the ROTOR.

No

Is the resistance values in the range of 5 to 15 Ω? (U-V, V-W, W-V :U=1, V=2, W=3)
- After pull out the RD4 connector, check the terminal of the connector in wire. (Red 3P, male)

No → Replace the STATOR.

Yes

Is hall sensor out of order? (Refer to 9-3 Stator assembly/Hall sensor.)

Yes → Replace the Hall sensor.

No

Check the IPM in the controller.

No → Replace the MAIN PWB ASSEMBLY.

DOOR OPEN ERROR

Is [dE] displayed?

Yes

Is the connector connected to door switch or main PWB disconnected? — **No** → Reconnect or repair the connector.

Yes

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** → Replace the PCB ASSEMBLY.

Yes

Is DOOR SWITCH ASSEMBLY broken? — **No** → Replace the DOOR SWITCH ASSEMBLY.

[Note] Environmental check list
1) The machine must operate with all the doors completely closed and locked.
2) The washing area must operate with a water temperature not higher than 45 Celsius and must not have more amount of supplied water than it should.

UNBALANCE ERROR

Is 〔 UE 〕 displayed?

Yes

Does the laundry lean toward one side, not evenly put in the DRUM assembly? **Yes** ▷ Put laundry evenly In the DRUM assembly

No

Is the washing machine installed at an angle? **Yes** ▷ Adjust the height of washing machine to be kept horizontally.
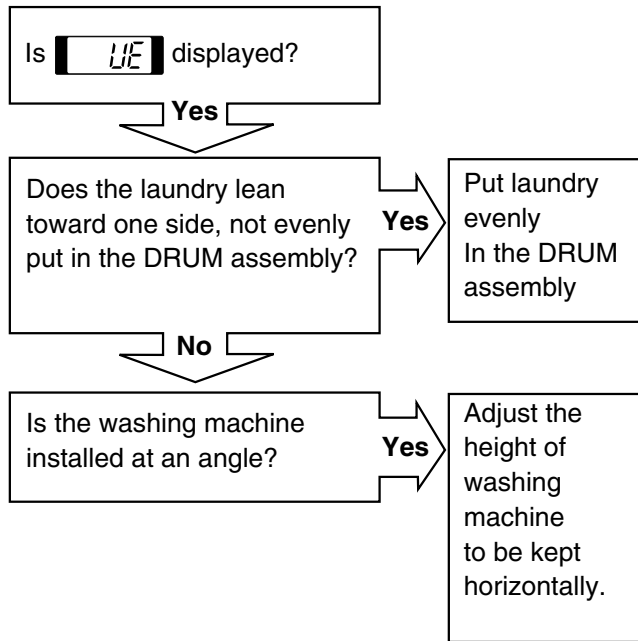
[Note] Environmental check list
1) Removal of transportation-based fixed bolt.
2) Confirmation on the material to see if it is capable of handling two different types of blanket materials.

OVER FLOW ERROR

Is 〔 FE 〕 displayed?

Yes

When you press both **WASH/RINSE** button and **DELAY WASH** button simultaneously, is the water level frequency over 21.3kHz? **No** ▷ Check the AIR CHAMBER and the tube (clogged).

Yes

Does the inlet valve work when the power is not applied? **No** ▷ If the inlet valve work continuously when the power is applied, Replace the MAIN PWB ASSEMBLY.

Yes

Replace the INLET VALVE ASSEMBLY.

PRESSURE SENSOR ERROR

Is ⚠ **PE ERROR** displayed?

Yes

Is the connector connected to pressure sensor disconnected or disassembled?

Yes → Reconnect or repair the connector.

No

Is the resistance of the pressure sensor out of range?
(pin 1~ pin 3)
(21~23 Ω ±10%)

Yes → Replace the pressure switch.

No

Is the AIR CHAMBER and the tube clogged?

Yes → Fix the air chamber and remove the foreign material.

No

Replace the MAIN PWB assembly.

8-5. TROUBLESHOOTING ELSE

⚠ 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 PWB ASSEMBLY, reinsert the connectors correctly.

NO POWER

Is the supplied voltage 120V AC?(+10%, -15%) — **No** → Check the fuse or reset the circuit breaker.

Yes

Is the current rating of multi-outlet power strip enough?
(Avoid connecting several electric devices.) — **No** → Alternate with explanation.

Yes

Is the connector connected to PCB/Noise filter disconnected or disassembled? — **No** → Reconnect or repair the connector.

Yes

Is LED on while the power is on? — **No** → Replace the MAIN PWB ASSEMBLY.

Yes

Is five pin wire of display PWB broken? — **No** → Replace the DISPLAY PWB ASSEMBLY.

Display PWB

**Connecting connector
MAIN PWB~ Display PWB**

BUTTON DOESN'T WORK

Is the connector connected to Main PWB / Display PWB disconnected or disassembled?

Yes > Reconnect or Repair the connector.
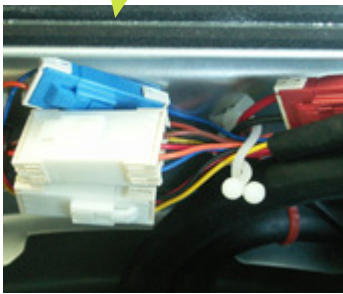
No

Is the button of panel stuck?

Yes > Repair the button.

No

Is the display PCB broken? (check the buzzer sound and LED light while push the button.)

Yes > Replace the DISPLAY PWB ASSEMBLY.

VIBRATION & NOISE IN SPIN

Have all the transit bolts and base packing been removed?
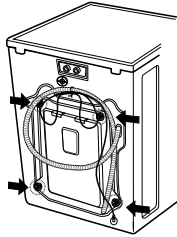
No → Remove the transit bolts and Base packing.

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.

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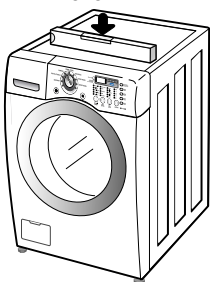
Put an unbalance part (rubber) inside of drum and start QC test mode and run in high spin.
(Refer to section 7-2.)
When the machine is spinning in high speed, verify that it is stable.
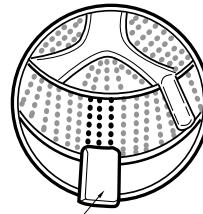
Unbalance Part

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.

Higher
Tighten
Adjustable feet

Lower
Tighten
Adjustable feet

33
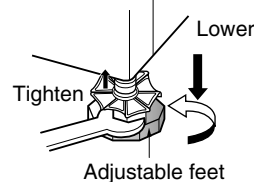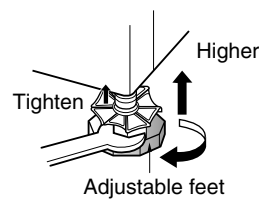
DETERGENT DOES NOT FLOW IN

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.

Prewash

Hot water

Main wash — Bleach Steam

↓ **Yes**

Has detergent been put in the correct compartment of the dispenser? — **No** → Put the detergent in the correct place.

Pre wash

Main wash

● : Detergent

(1) (4) (3) (2)

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

↓ **Yes**

Is the detergent caked or hardened? — **Yes** → Clean the dispenser.

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Is water supplied? — **No** → Refer to NO WATER SUPPLY.

Yes ↓

Are the plugs correctly connected to the terminals of the INLET VALVE ASSEMBLY? — **No** → Check the wiring on the dispenser.

Prewash

Hot water

Main wash — Bleach Steam

Yes ↓

Is liquid detergent/softener/ bleach put in the correct compartment of the drawer? — **No** → Put it in the correct compartment.

(1)   (4)   (3)   (2)

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

Yes ↓

Is the liquid detergent/ softener/bleach cap clogged? — **Yes** → Clean the cap and container.

Bleach cap

SOFTENER

Softener cap

Liquid detergent cap

Is the motor bolt loosened? — **Yes** → Secure the bolt.

No ↓

Is there friction noise coming from the motor? — **Yes** → Check hall sensor. Replace If defective. Then check stator. Replace if necessary. Check rotor for broken magnets. Replace rotor if necessary.

9. COMPONENT TESTING INFORMATION

⚠ WARNING When Resistance (Ohm) checking the Component, be sure to turn the power off, and do voltage discharge sufficiently.

9-1. FILTER ASSEMBLY (LINE FILTER)

Wiring diagram	**Circuit in the MAIN PWB / Wiring Diagram**
Test points and Result	

Test Points	Result
WH (1) to RD (3)	0 Ω
WH (3) to RD (1)	0 Ω

9-2. DOOR LOCK SWITCH ASSEMBLY

Wiring diagram	**Circuit in the MAIN PWB / Wiring Diagram**

Function	The door lock switch assembly consists of a heating PTC, a bimetal, a protection PTC, and a solenoid. It locks the door during the wash cycle.
	
	1. Operation for door closing
	   - After the system turns on, PTC heating starts up through terminals 2 and 4 authorizing the power on.
	   - After PTC heating starts up and before solenoid operation is driven, force the system to the off position through CAM.
	   ⇒ Door close
	   - Authorizing one impulse through terminal 3~4 (PTC & solenoid) will make the door locked.
	   - Door lock is detected when switches in terminal 4~5 are set closed.
	   ⇒ CAM rotation will forcibly clear off the connection.
	      The maximum, allowable number of impulse authorizations is 2.
	   ⇒ Upon the third authorization of the impulse, the position of CAM 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.
	   ⇒ Normal operation period of PTC heating: 1.5 – 5 seconds.
	      (Defects from the development process.)
	
	2. Operation for door opening
	   - With a temporary stop, door automatically opens by CAM rotations after authorizing the impulse from the terminal, 3 ~ 4 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.
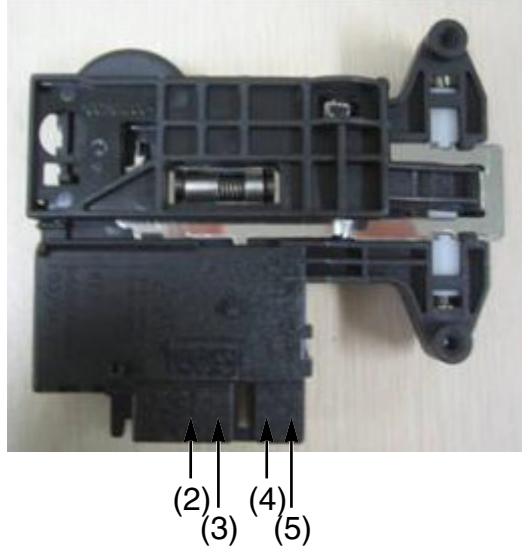
Test points	
	(2) (4) (3) (5)
Result	
	Test Points	Result	Remarks
	(2) to (4)	700-1500 Ω	At 77°F (25°C)
	(3) to (4)	60-90 Ω	At 77°F (25°C)
	(4) to (5)	Infinity	
	(2) to (4)	120 Vac	Voltage Input

9-3. STATOR ASSEMBLY

Wiring diagram	**Circuit in the MAIN PWB / Wiring Diagram**
Function	The Direct Drive motor can be driven from stopped to maximum speed in infinite steps in either direction. There are 36 poles on the stator; 12 permanent magnets spaced around the rotor. There are no brushes to wear out. Unlike a more traditional brushless motor, the rotor surrounds the stator rather than being attached to it.
Test points (Windings)	
Result (Windings)	

Test Points	Result
(1) to (2)	5-15 Ω
(2) to (3)	5-15 Ω
(3) to (1)	5-15 Ω

	The hall sensor determines the speed and direction of the motor. It also can read that the load is off balance when the drum speed fluctuates.
Test point **and** **Result** **(Hall** **Sensor)**	**- Voltage Testing Hall Sensor at Stator** **(2) (4)** **(1) (3) (5)** If measuring voltage from the Main PCB Assembly to the Hall Sensor, use the following steps: 1. Unplug power cord. 2. Remove rear washer panel. 3. Locate Hall sensor connector on the stator behind the rotor. 4. Place meter leads on terminals 5 to 4, white to gray. 5. Plug in power cord, close door, and press power button. DO NOT PRESS START! 6. You should measure 10 to 15 V_{DC}. If 10 to 15 V_{DC} is present, control board, white wire, and gray wire are OK! If not, follow testing output voltages on control board in next section.
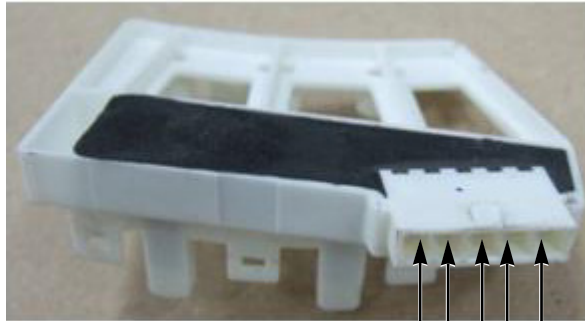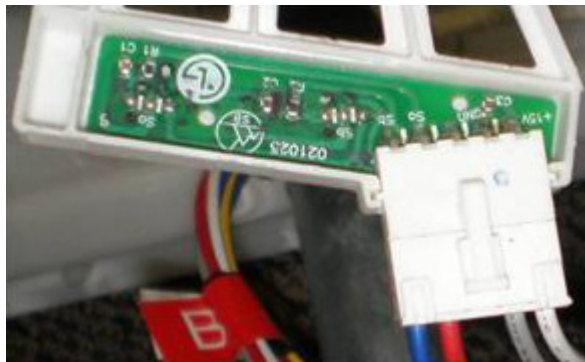
	7. To measure output signal voltage from the hall sensor, carefully move test leads to terminals 1 to 4, blue and gray. Slowly rotate motor rotor by hand. You should read a pulsing 10 V$_{DC}$. If 10 V$_{DC}$ is measured from 1 to 4, move lead on blue wire to red wire, terminal 2. Repeat rotating motor rotor by hand. You should read a pulsing 10 V$_{DC}$ from red to gray. 8. If pulsing 10 V$_{DC}$ is measured from 1 to 4 and 2 to 4, hall sensor is OK! If either test netted only 9 to 10 V$_{DC}$ without changing (no pulsing) the hall sensor is likely defective. Disconnect power by unplugging washer and ohm check hall sensor to verify failure of the hall sensor.
Test Point **and** **Result (Hall Sensor)**	**- Voltage Testing Hall Sensor from the Main PCB Assembly** (2) (4) ... (1) (3) 1. Unplug power cord. 2. Remove rear panel. 3. Remove washer top. 4. Remove main PCB assembly cover as shown in figure below. 5. Locate the white hall sensor 4-wire connector using wiring diagram wire colors as your guide. 6. Plug in power cord, close door, and press the button. DO NOT PRESS START! 7. Place meter leads on White & Gray wires. You should read 10 to 15 V$_{DC}$ output from the Main PCB Assembly to the Hall sensor. If no 10 to 15 V$_{DC}$ is measured, the control board is defective. 8. Place meters leads on Blue to Gray. Turn motor rotor slowly by hand. You should measure a pulsing 10 V$_{DC}$. Place meter leads on Red to Gray. Turn motor rotor slowly by hand. You should measure a pulsing 10 V$_{DC}$. If both tests measure a pulsing 10 V$_{DC}$, hall sensor and harness OK. If either or both tests measures 9 to 10 volts, but does not pulse or change, Hall sensor has failed and must be replaced. IF zero (0) voltage is measured on either test, check red blue wires for continuity. Repair or replace harness as needed. | Test Points	Result	Remarks
---	---	---
(1) to (2)	8-12 kΩ	
(1) to (3)	8-12 kΩ	
(1) to (4)	10-15 V$_{DC}$	Voltage Input
(2) to (4)	10 V$_{DC}$	Pulsing Signal
(3) to (4)	10 V$_{DC}$	Pulsing Signal	
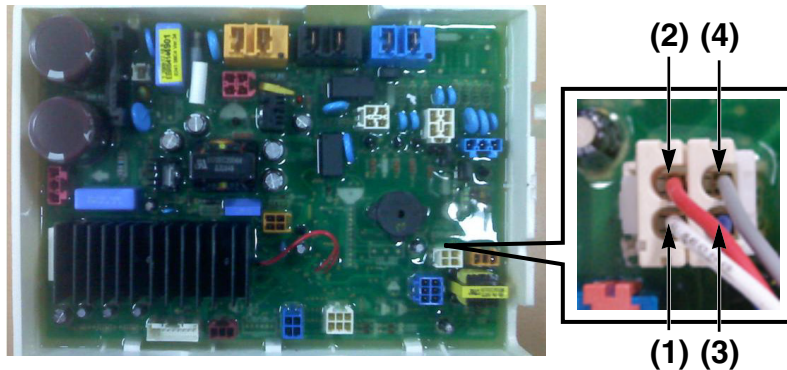
9-4. PUMP MOTOR ASSEMBLY

Wiring diagram	**Circuit in the MAIN PWB** — **Wiring Diagram**

Circuit in the MAIN PWB

MICOM — IC — R — Rg — Cg — Rs — Cs — 5V — Vdc — Vac

Pump Driving circuit

PCB CONNECTOR

PUMP

Wiring Diagram

MAIN PWB
NA2   BL3
BN   BK   SB
SB

BN   BK   SB

DRAIN PUMP   CIRCULATION PUMP

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

Object	

For Drain   **For Circulation**

Function	Two pump motors are used to drain the tub and to circulate the water / detergent solution.

Test points	

Drain Pump   **Circulation Pump**

T.P

(1)   (2)

(1)(2)   (1)(2)

Result	

Drain Pump		**Circulation Pump**	
Test Points	Result	Test Points	Result
(1) to (2)	10-20 Ω	(1) to (2)	18-30 Ω

42

9-5. INLET VALVE ASSEMBLY
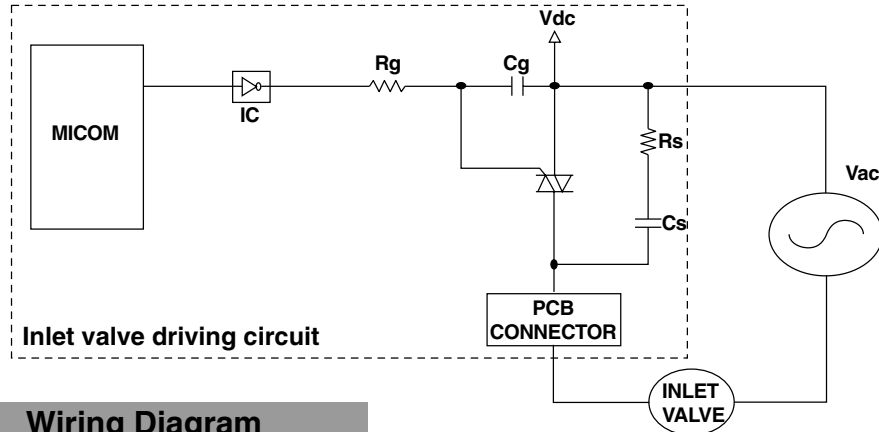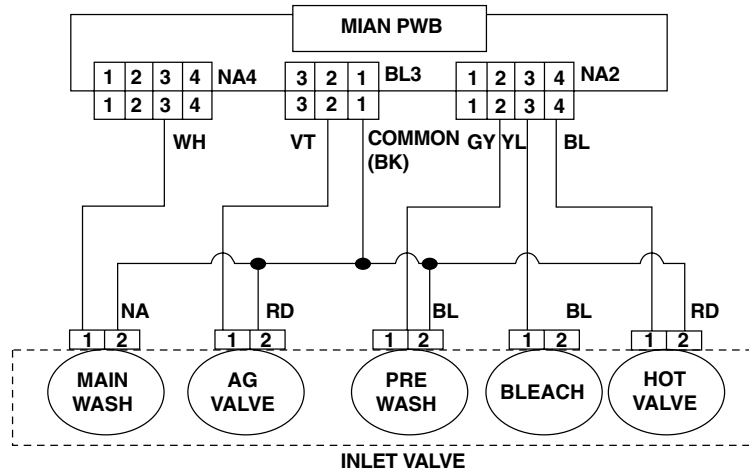
Wiring diagram	**Circuit in the MAIN PWB** Inlet valve driving circuit **Wiring Diagram** * Each circuits of loads in wiring diagram are all same.
Function	Depending on the cycle and water temperature, the controller will energize the hot or cold water valve solenoids to meet the selected water temperature.
Test points and Result	After pull out the connector of defective valve, check the resistance. <table><tr><td>Test points</td><td>(1)-(2)</td></tr><tr><td>Result</td><td>0.8-1.2 kΩ</td></tr></table>
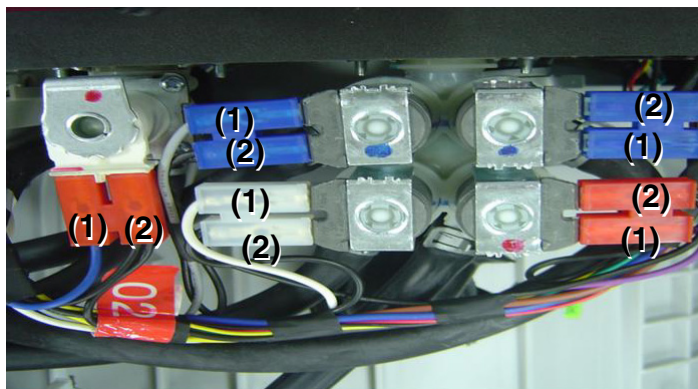
9-6. HEATER ASSEMBLY

Wiring diagram	**Circuit in the MAIN PWB**	**Wiring diagram**

MAIN PWB

(X71) 3 4 YL | (X135) 3 4 BL | (X134) 3 4 BK
3 4 | 3 4 | 3 4
RD BL | GY BK | YL BK

STEAM GENERATOR HEATER | **WASH HEATER**

Vac

12V
X100
MICOM
Tab Relay
Heater
Vac
Heater driving circuit

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

Function	1. The wash heater is designed to raise the wash water to the desired temperature selection during certain wash cycles. 2. The steam generator heater is designed to make the water to the steam during steam cycles.

Test points	

(1) Wash Heater

Steam Generator Heater

Result

	Wash Heater		**Steam Generator Heater**	
	Test Points	Result	Test Points	Result
	(1) to (2)	12-18 Ω	(1) to (2)	12-18 Ω

9-7. THERMISTOR ASSEMBLY

Wiring diagram	**Circuit in the MAIN PWB / Wiring Diagram**
Function	The thermistor (temperature sensor) is used to monitor water temperature in the tub or steam generator.
Test points	 **Wash Thermistor** **Steam Generator Thermistor**

Result

Wash Thermistor

Test Points	Result (tolerance ±5%)	Remarks
(1) to (2)	39.5 kΩ	At 86°F (30°C)
	26.1 kΩ	At 104°F (40°C)
	12.1 kΩ	At 140°F (60°C)
	8.5 kΩ	At 158°F (70°C)
	3.8 kΩ	At 203°F (95°C)
	2.8 kΩ	At 221°F (105°C)

Steam generator Thermistor

Test Points	Result (tolerance ±5%)	Remarks
(1) to (2)	39.5 kΩ	At 86°F (30°C)
	26.1 kΩ	At 104°F (40°C)
	12.1 kΩ	At 140°F (60°C)
	8.5 kΩ	At 158°F (70°C)
	3.8 kΩ	At 203°F (95°C)
	2.8 kΩ	At 221°F (105°C)
	2.1 kΩ	At 241°F (116°C)
	1.4 kΩ	At 266°F (130°C)
	1.0 kΩ	At 293°F (145°C)
	0.7 kΩ	At 320°F (160°C)
	0.4 kΩ	At 356°F (180°C)

9-8. STEAM GENERATOR ASSEMBLY

Wiring diagram	**Steam generator Water level sensor circuit in the MAIN PWB / wiring diagram** MAIN PWB 5V DC5V IC 2 IC 1 YL2 PK Input A (long) → PHOTO COUPLER VT MICOM NA Input B (short) → NA 1 2 3 1 2 3 GND L S AG SENSOR **Heater & Thermistor : Refer to the 9-6 / 9-7**
Original	 **WATER LEVEL SENSOR** **THERMISTOR ASSEMBLY** **HEATER ASSEMBLY**
Test points	**1. Steam generator** **1) Construction of steam generator** Inlet valve that controls supplying water, Water level sensor that sense amount of water supply, thermistor ASSEMBLY the sense inner temperature of steam generator, heater assembly that heats water supply, steam generator CASE that is container of water supply, nozzle, hose of water supply.

Function	**2) Operation mechanism of Steam generator** After supplying some amount of water through inlet valve and water level sensor, the heater operates and steam generates. Generated steam is sprayed by nozzle. If the water in the steam generator is reduced by spraying steam, the water level sensor signals the board to refill the steam generator. **3) Operation method of Steam generator** The steam generator assembly is supplied as an assembly only; parts like the water level sensor, thermistor, or heater cannot be replaced individually. Diagnosis is limited to determining malfunction and replacing as an assembly. The steam generator does not have to be removed from the machine to be drained. Be sure to let the water cool to avoid a burn. Have a hose available to slip onto the connector or a large towel to catch the water so it doesn't run down into the machine cabinet. If you remove the steam generator before draining it, be sure to avoid tipping it and spilling the water.
	2. Water level sensor **1) Structure of water level sensor** Maximum water level Minimum water level common **2) Function of Water level sensor** It determines the water level in the steam generator and keeps it full protect the heating element.
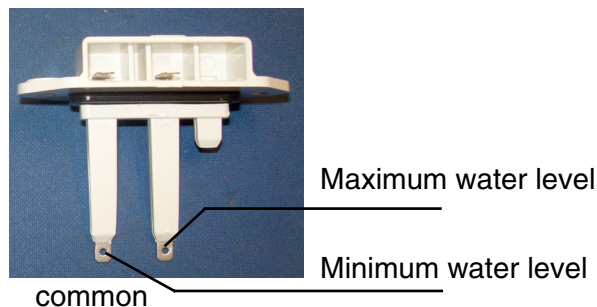
10. DISASSEMBLY INSTRUCTIONS

✳ Be sure to unplug the machine before disassembling and repairing the parts.

CONTROL PANEL
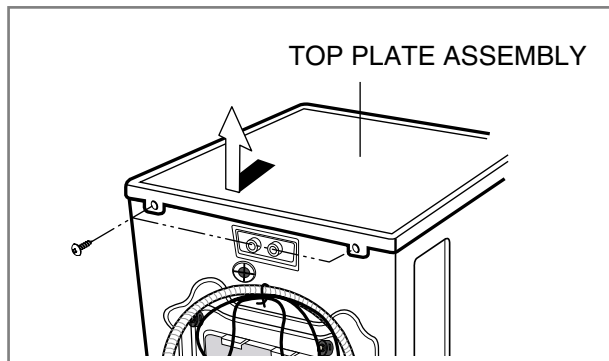
TOP PLATE ASSEMBLY

① Unscrew 2 screws on the back of the top plate.

② Pull the top plate backward and upward as shown.

DRAWER

CONTROL PANEL ASSEMBLY
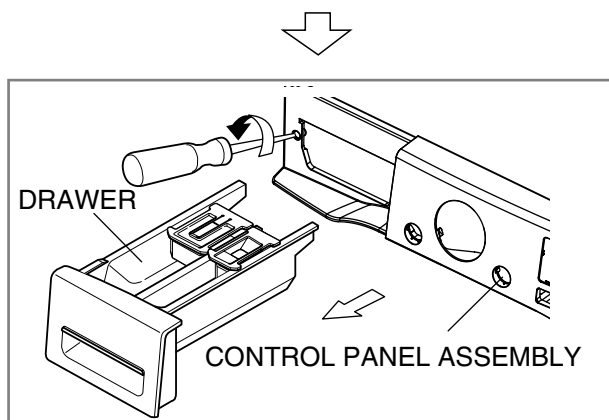
③ Disconnect the Display PWB assembly connector from the cabling.

④ Pull out the drawer and unscrew 2 screws.

CONTROL PANEL ASSEMBLY
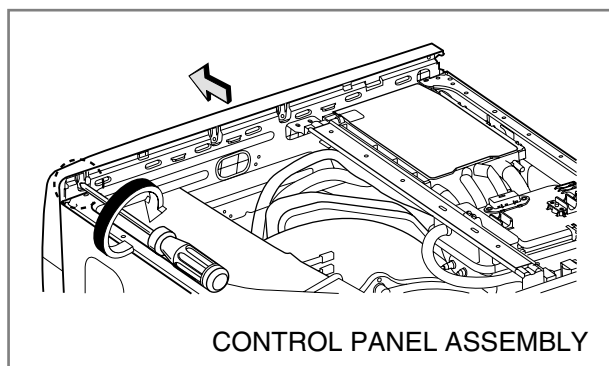
⑤ Remove one screw.

⑥ Lift the side the control panel assembly and pull it out.

DISPLAY PWB ASSEMBLY
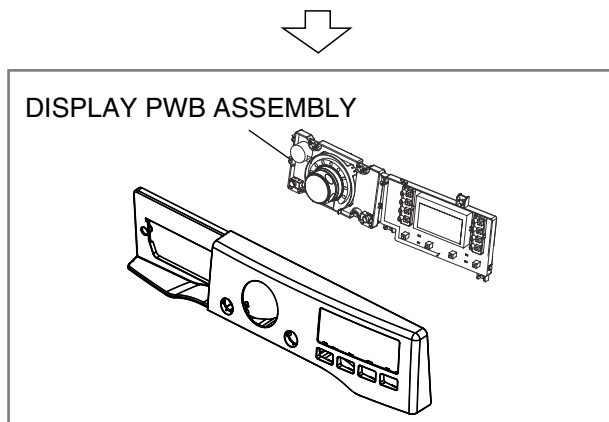
⑦ Unscrew the 8 screws from the control panel assembly.

⑧ Disassemble the display PWB assembly.

MAIN PWB ASSEMBLY
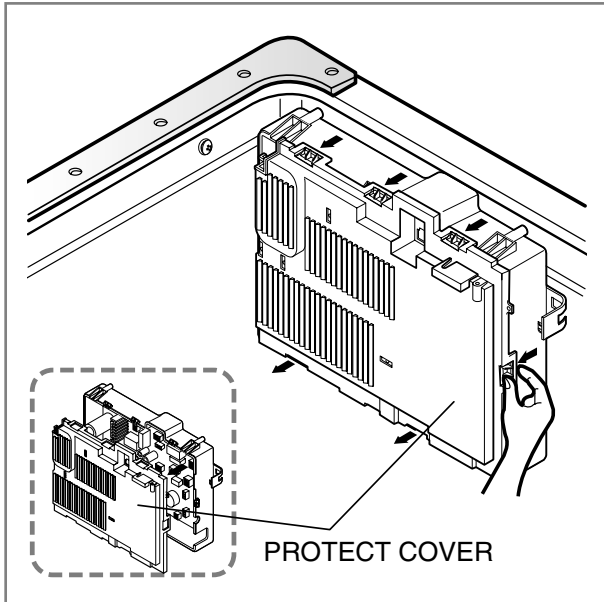
PROTECT COVER

① Disconnect the POWER connector and the pressure switch assembly.

② Remove the protective cover.
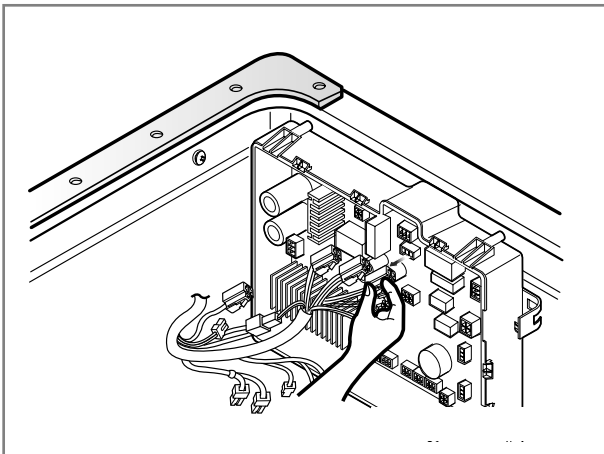
③ Disconnect the connectors.
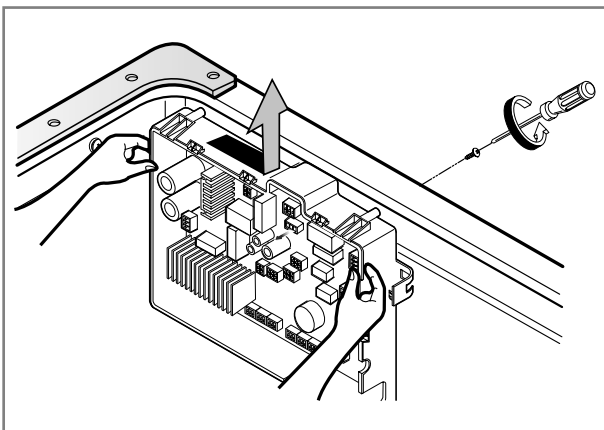
④ Unscrew 1 screw on the back.

⑤ Remove the main PWB.

DISPENSER ASSEMBLY
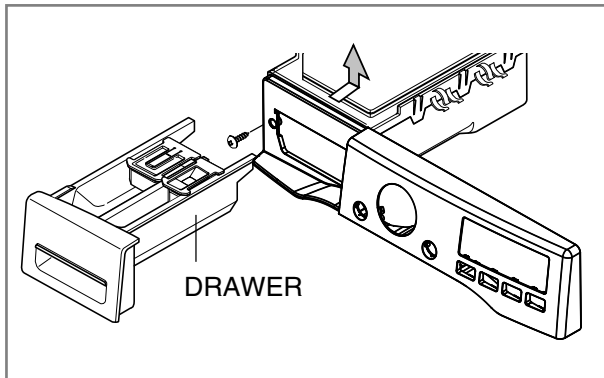
① Disassemble the top plate assembly.

② Pull out the drawer.

③ Push out the dispenser assembly after unscrewing 2 screws.

DRAWER
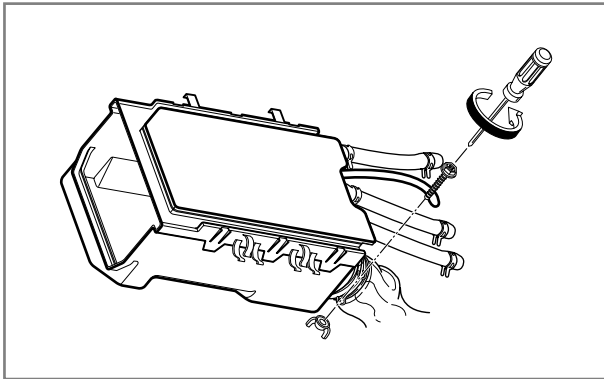
④ Unscrew the clamp nut at the lower part of the dispenser.
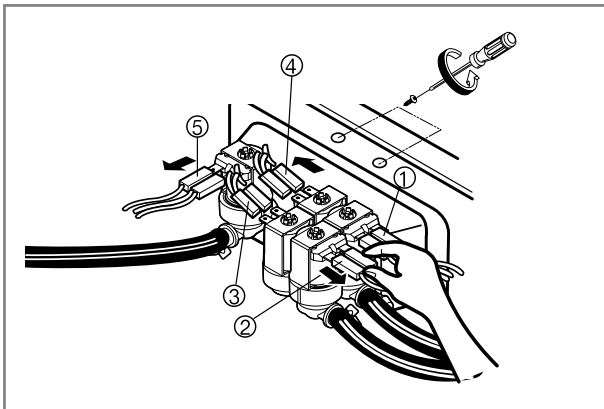
⑤ Disassemble the 4 connectors from the valves.

※ Wire Color
① Blue Housing (YL-BK)
② Red Housing (VT-BK)
③ White Housing (WH-BK)
④ Blue Housing (GY-BK)
⑤ Red Housing (BL-BK)

⑥ Unscrew 2 screws from the back of the cabinet.

NOISE FILTER
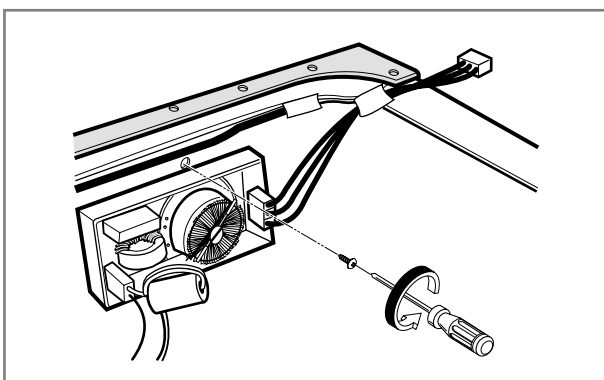
① Disassemble two (or three) connectors from the noise filter.

② Unscrew a screw from the top bracket.
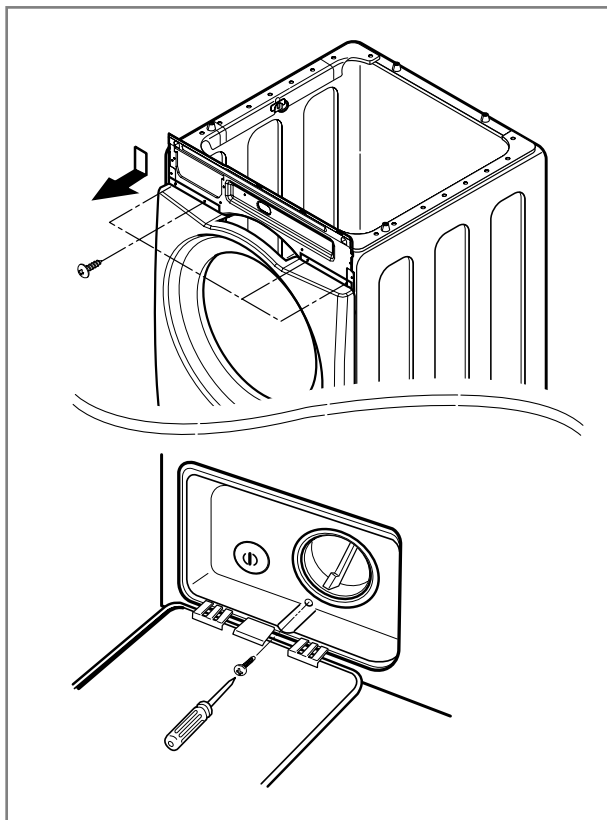
① Unscrew the 5 screws from upper of the cabinet cover.

② Unscrew the screw from filter cover.
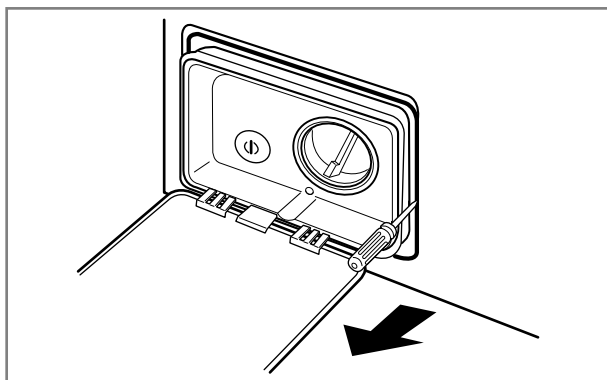
③ Put a flat (-) screwdriver or putty knife into the hinge slots at the bottom of the cover and pry it out.
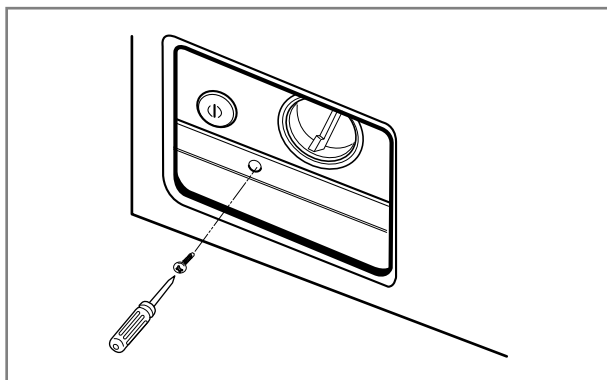
④ Unscrew the screw from the lower side of the cabinet cover.
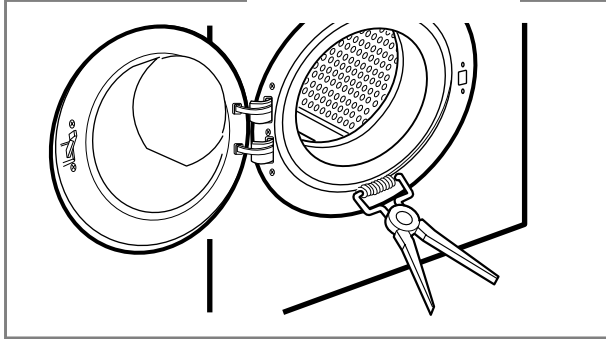
⑤ Open the door.

⑥ Disassemble the clamp assembly.
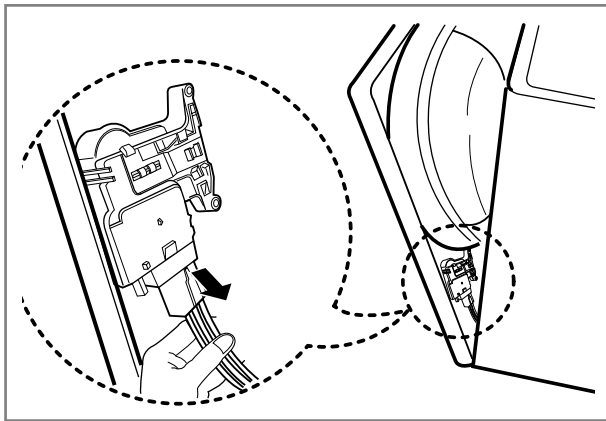
⑦ Tilt the cabinet cover.

⑧ Disconnect the door switch connector.

> ※ **NOTE :** When assembling the
> CABINET COVER, connect the door switch
> connector.
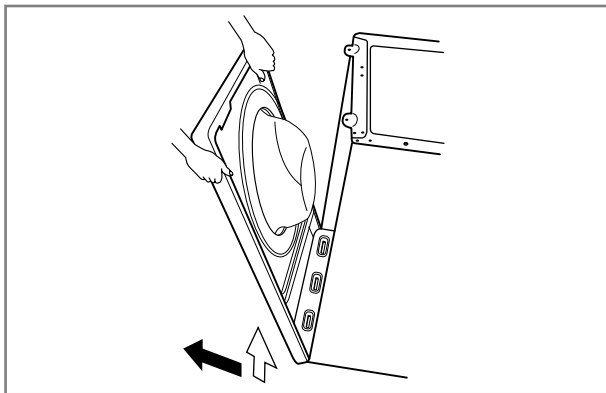
⑨ Lift and separate the cabinet cover.
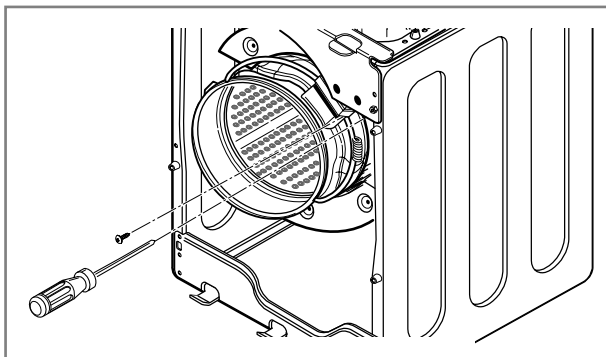
⑩ Disassemble the clamp assembly.

⑪ Disassemble the gasket.

DOOR
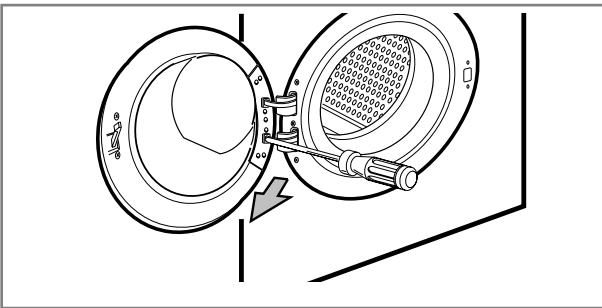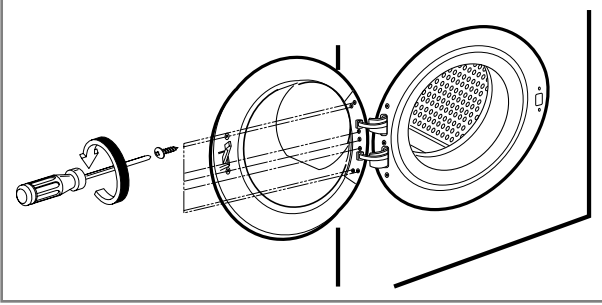
① Open the door.

② Unscrew the 4 screws from the hinge.
(Use the 8mm tool.)

③ Disassemble the door upward.

DOOR LOCK SWITCH ASSEMBLY
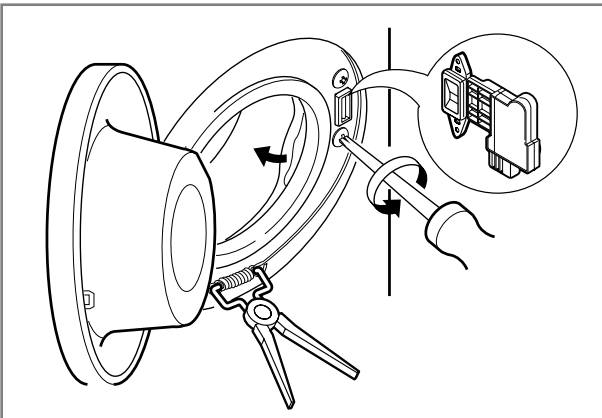
① Open the door and disassemble the CLAMP
ASSEMBLY.

② Unscrew the 2 screws.

※ **NOTE**
- Reconnect the connector after replacing
the DOOR SWITCH ASSEMBLY.

PUMP

CIRCULATION HOSE
PUMP HOSE
BELLOWS
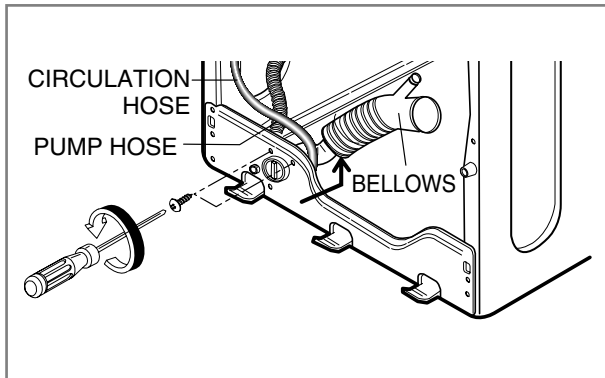
① Disassemble the cabinet cover.

② Separate the pump hose, the bellows, the circulation hose assembly from the pump assembly.

③ Disassemble the pump assembly.

HEATER
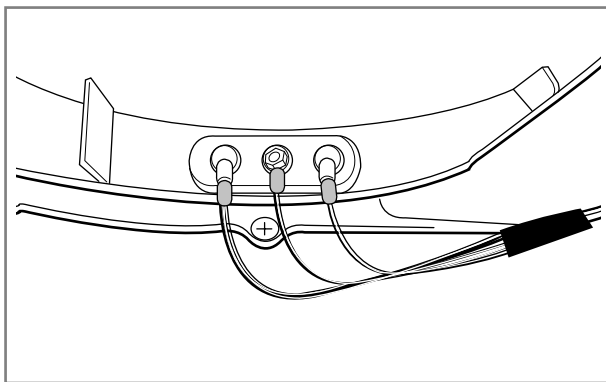
① Disassemble the cabinet cover.

② Separate 2 connectors from the heater.

③ 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.

THERMISTOR
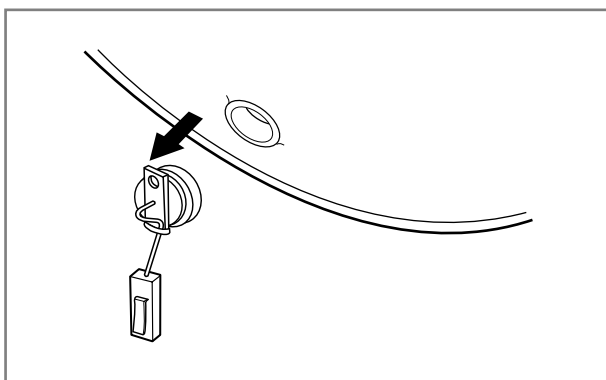
① Disassemble the cabinet cover.

② Unplug the white connector from the thermistor.

③ Pull it out by holding the bracket of the thermistor.

WHEN FOREIGN OBJECT IS STUCK BETWEEN DRUM AND TUB
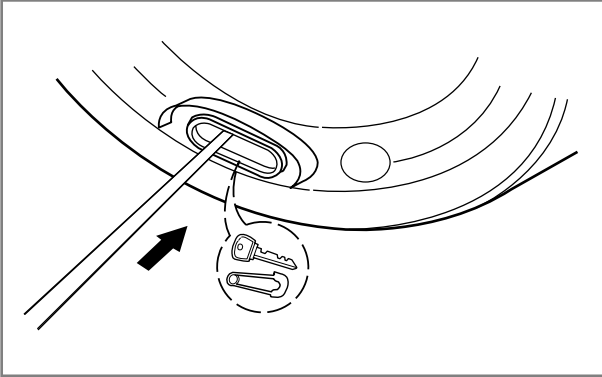
① Disassemble the cabinet cover.

② Separate the heater from the tub.

③ Remove any foreign objects (wire, coin, etc.) by inserting a long bar in the opening.
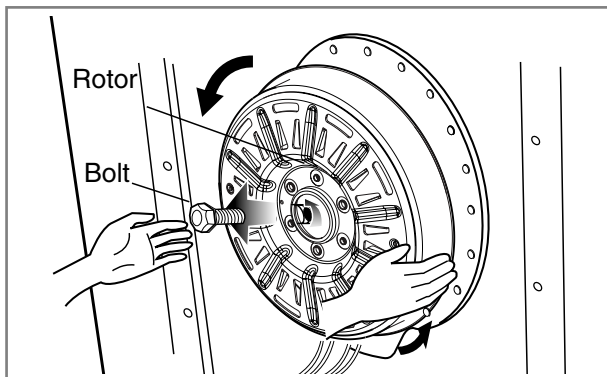
LAMP ASSEMBLY
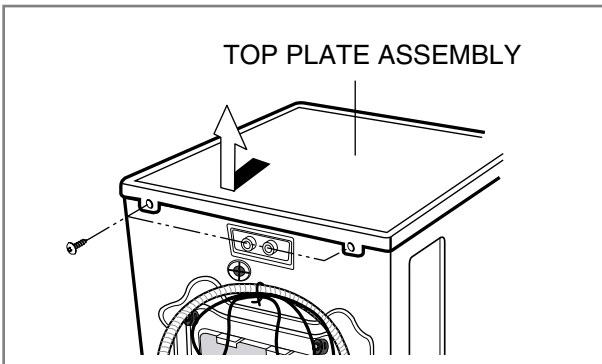
TOP PLATE ASSEMBLY

① Unscrew 2 screws on the back of the top plate.
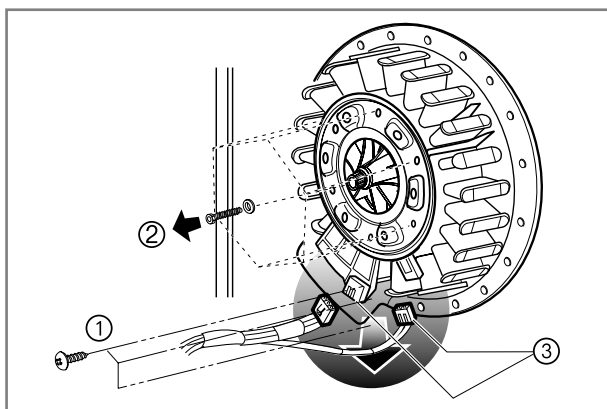
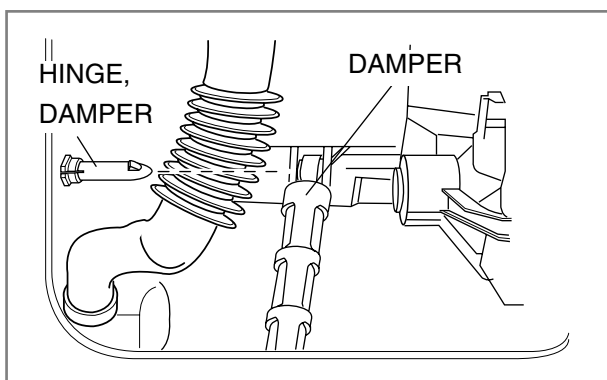② Pull the top plate backward and upward as shown.
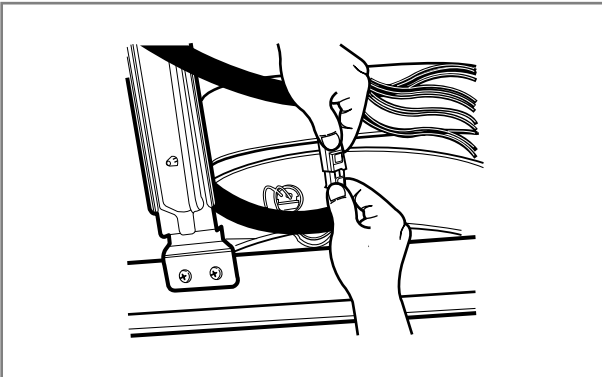
③ Disconnect the connector.

MOTOR/DAMPER

① Disassemble the back cover.

② Remove the bolt.

③ Pull out the rotor.

① Unscrew the 2 screws from the tub bracket.

② Remove the 6 bolts on the stator.
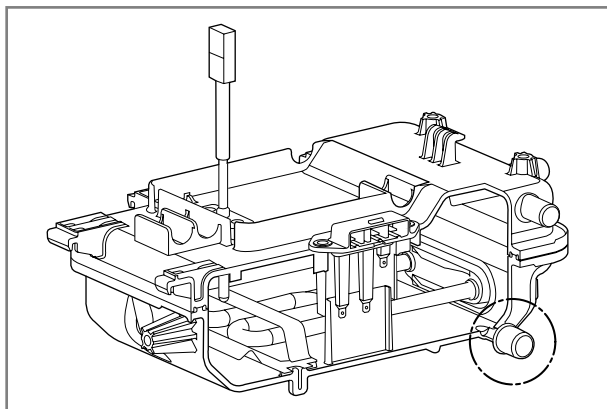
③ Unplug the 2 connectors from the stator.

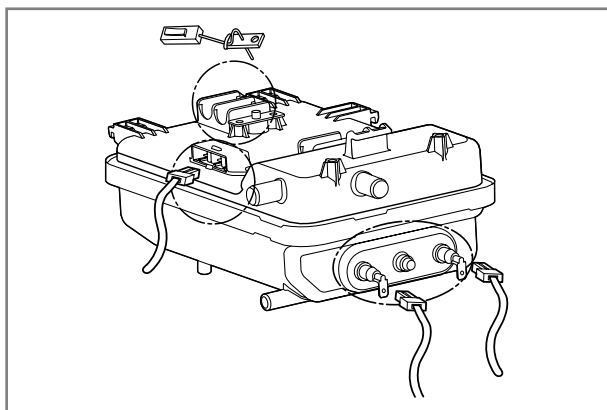① Disassemble the damper hinges from the tub and base.

※ **NOTE**
• If you pull the dampers apart, the must be replaced. If you do not separate them, they can be re-used.
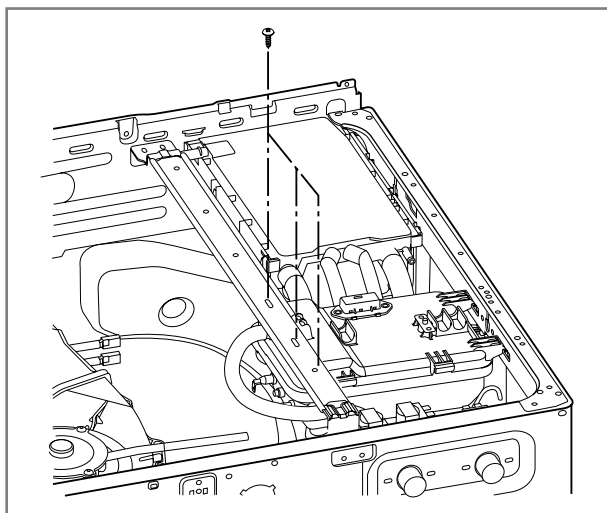
Checking the TSG (TURBO STEAM GENERATOR)

① To check out the fault diagnosis of TSG, you can pull out the plug and let the water drain away.
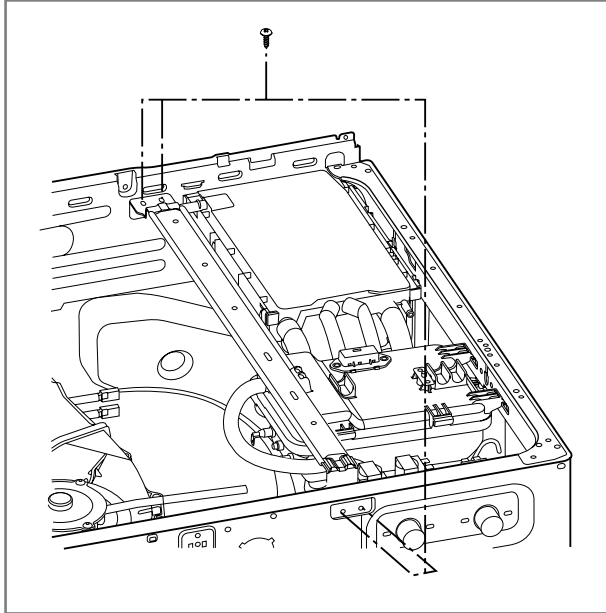
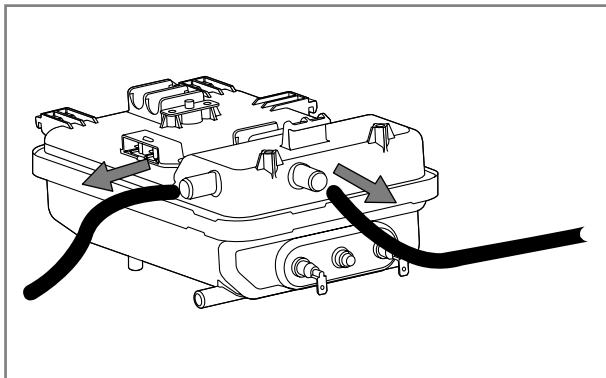② Be cautious in case of the TSG is hot.

TSG (TURBO STEAM GENERATOR)

① Remove the housing attached to the TSG. (Heater, Water level frequency-sensor, Thermistor.)
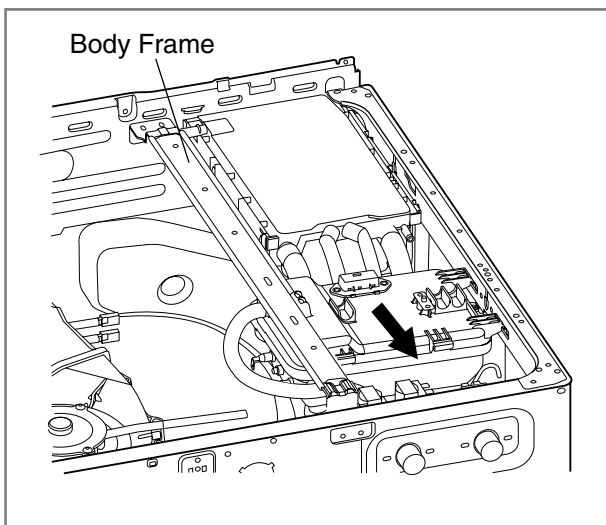

② Remove the screw of the TSG and body frame.

③ Remove the screws from both ends of the frame rail.

④ Separate the hoses from the TSG.

Body Frame

⑤ Remove the body frame and then separate the TSG from the washer.

11. EXPLODED VIEW

11-1. CABINET & CONTROL PANEL ASSEMBLY

"The following parts are not illustrated"		
	Description	Loc No.
	*Owner's Manual	G001
	*Energy Label	G002
	*Tech Sheet	G003
Printed materials	*Service Manual	G004
	*Quick Start Guides	G006
	*Installation Sheet	G007
	*Non-Skid pads	G010

11-2. DRUM & TUB ASSEMBLY

※ In case of replacing THERMISTOR of HEATER ASSEMBLY(K320), replace HEATER ASSEMBLY(K320),
   HEATER ASSEMBLY(K320) includes THERMISTOR.
※ In case of replacing BEARING,BALL(K121,K122) and GASKET(K125), replace TUB ASSEMBLY,OUTER(K105),
   TUB ASSEMBLY,OUTER(K105) includes BEARING,BALL(K121,K122) and GASKET(K125).
※ Part Assembly(K142) includes 10 screws.

11-3. DISPENSER ASSEMBLY