CONFIDENTIAL

LAUNDARY CENTER
SERVICE MANUAL

⚠ CAUTION

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

MODELS : W3S1*

IMPORTANT SAFETY NOTICE

The information in this service guide is intended for use by individuals possessing skill and experience in electrical, electronic, and mechanical appliance repair. Any attempt to repair a major appliance may result in injury to persons, and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ WARNING !

To avoid injury to persons, disconnect power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

RECONNECT ALL GROUNDING DEVICES

If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light a match, or cigarette, or turn on any gas or electrical appliance.
- Do not touch any electrical switches. Do not use any phone in your building.
- Clear the room, building, or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions carefully.
- If you cannot reach your gas supplier, call the fire department.

IMPORTANT

Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an anti-static wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance.

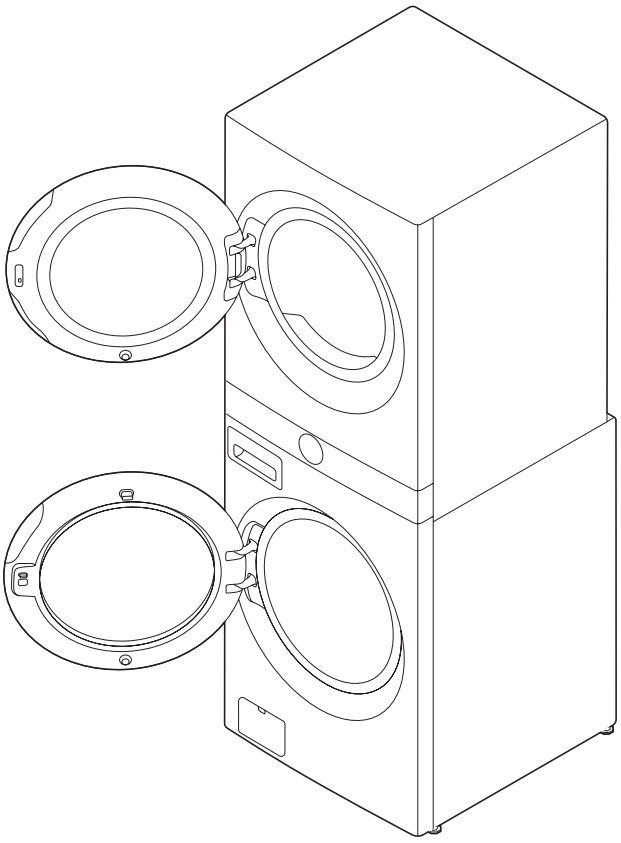
- OR -

Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the anti-static bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging the failed electronic control assembly in an anti-static bag, observe the instructions above.

CONTENTS

1. SPECIFICATIONS



Model	**W3S1CWKB***
Name	LAUNDARY CENTER
Power supply	**WASHER** : 120V, 60Hz, 11A **DRYER(ELEC)** : 120/240V, 60Hz, 26A, 22.5lb / 120/208V, 60Hz, 23A, 22.5lbx **DRYER(GAS)** : 120V, 60Hz, 5A, 22.5lb
Size	27 in (W) X 30 ⅜ in (D) X 74 ⅜ in (H), 55 in (D with door open) 70 cm (W) x 77 cm (D) x 189 cm (H), 139.6 cm (D with door open)
Capacity	- Washer : 4.5 cu.ft. (DOE) - Dryer : Normal cycle - IEC 7.4 cu.ft. (22.5 lb/10.2 kg)
Weight	Gas : 314.3 lb (142.6kg) - 327.1 lb (148.4 kg) Electric : 311.6 lb (141.3 kg) - 323.7 lb (146.8 kg)

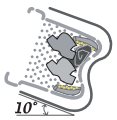
⚠ WARNING To reduce the risk of injury you must adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses. Failure to follow all of the safety warnings in this manual could result in property damage, injury, or death.

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 (Washer)**
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.

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

■ **Control Lock**
The control lock prevents children from pressing any button to change the settings
during operation.

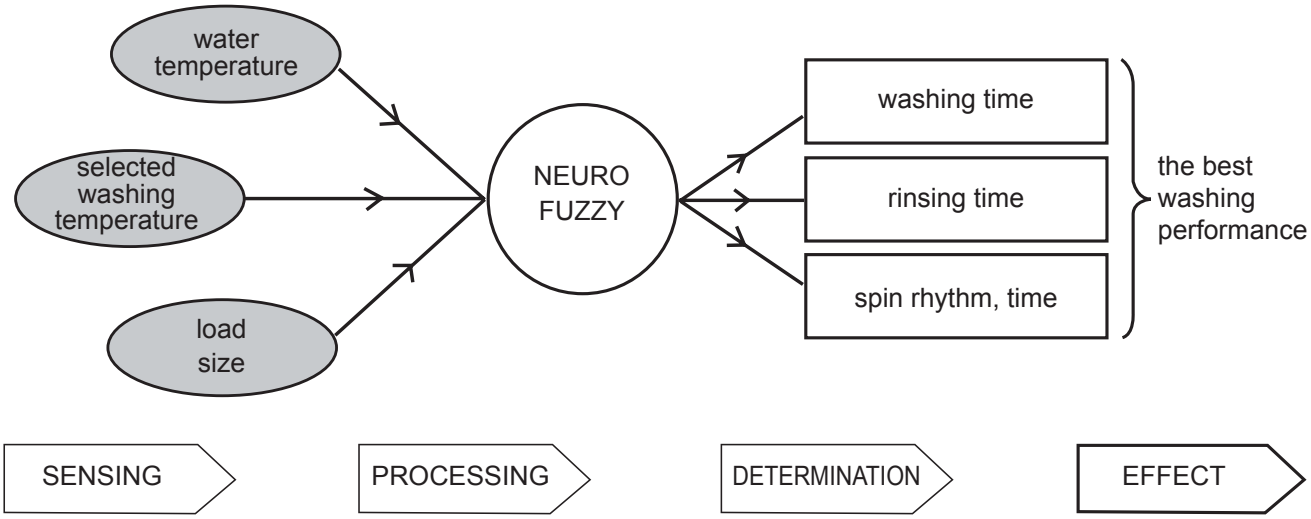
■ **SMART DIAGNOSIS™**
Should yo u experience any technical diffic ulty with your washing machine, is capable of producing multiple distinct different motions for optimal washing performance with very little noise and vibration. The motor assembly also contains fewer moving parts, thus resulting in fewer repairs.

How to USE?
Press and hold the **Steam + Extra Rinse(Washer) / Steam + Reduce Static (Dryer)** buttons for 3 seconds or until the audible tones start. Hold the smartphone mouthpiece
to the logo until the data transfer is complete.

■ **Flow Sensor (Dryer)**
This FlowSenseTM function detects the clogging or blocking of ducts.
Clogged duct vents or hoses decrease efficiency in drying cloths.
Clogged vents can also cause fire. This function alerts you to the need of cleaning the duct. When the alarm about Duct clogging is displayed, clean the duct or call a servicer to clean them.

2-2. Neuro Fuzzy Washing Time Optimization (Washer)

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.

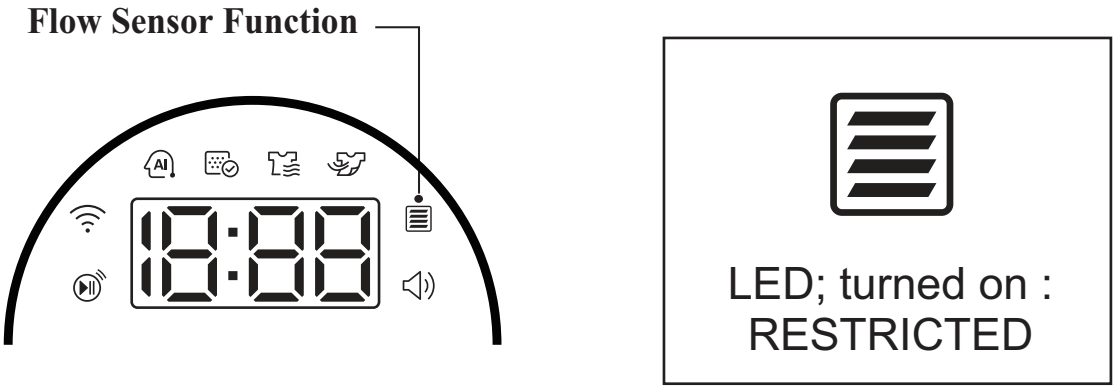
■ The Washer Door Can Not Be Opened

- While the machine is in operation.
- After a power failure, and the machine has been unplugged during operation.
- While the Door Lock light is on.
- While the motor is rotating, even though the operation may be paused.

■ Control Lock

- The Control Lock is used to restrict unwanted users from operating the machine.
  Press and hold Soil(Washer)/Time Dry(Dryer) for 3 seconds to either lock or unlock the machine's controls.
- Only the Power button remains active while the Control Lock feature is engaged.
- The Control Lock can be activated while the machine is already in operation
- The Control Lock will remain engaged until the end of the current cycle. To disengage the Control Lock , press and hold Soil(Washer)/Time Dry(Dryer) for 3 seconds.

■ Flow Sensor (Dryer)



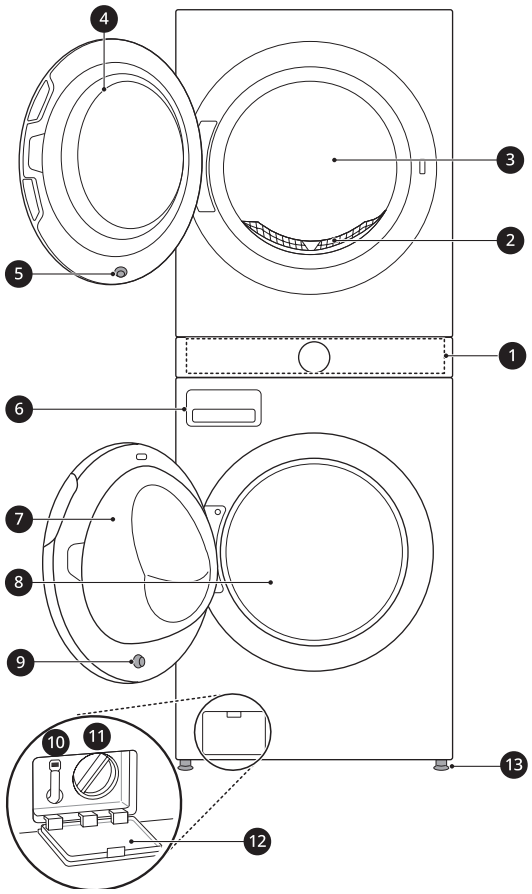
The FlowSenseTM display consists of LED lamp. The display has only two possible displays as only two possible displays as shown here.

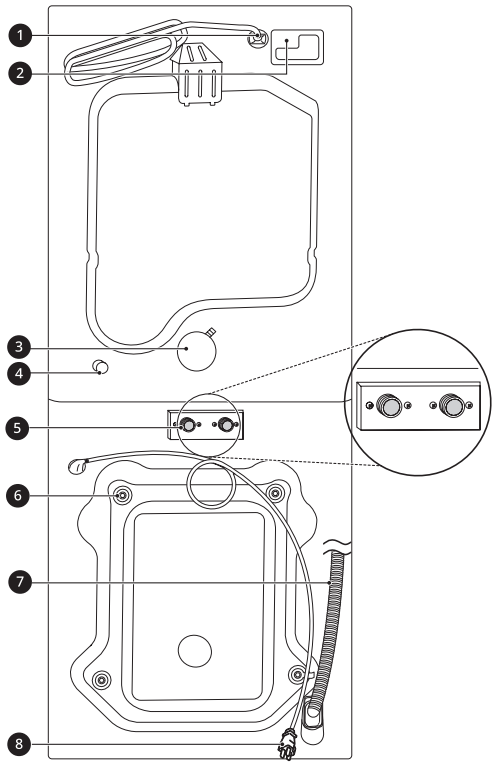
① No Response.

② LED; turned on.

3. PARTS IDENTIFICATION

■ Parts



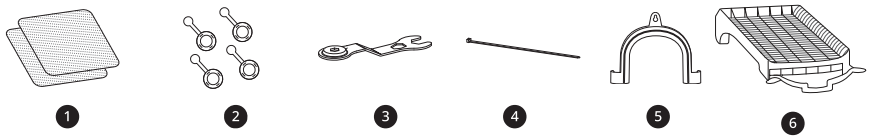


❶ Control Panel
❷ Lint Filter
❸ Dryer Drum
❹ Dryer Door
❺ Dryer Door Magnet
❻ Detergent Dispenser Drawer
❼ Washer Door
❽ Washer Drum
❾ Washer Door Magnet
❿ Drain Hose
⓫ Drain Pump Filter
⓬ Drain Pump Filter Cover
⓭ Leveling Feet

❶ Power Cord(for Dryer gas models)
❷ Terminal Block Access Panel(for electric models)
❸ Exhaust Duct Outlet
❹ Gas connection(for gas models)
❺Hot and Cold Water Inlets
❻Shipping Bolts
❼Drain Hose
❽Power Cord (for washer)

■ Accessories

Included Accessories



❶	Non-skid Pads	❹	Tie Strap
❷	Hole Caps	❺	Elbow Bracket (for securing drain hose)
❸	Wrench	❻	Drying Rack (on some models)

Required Accessory (sold separately)

❶	Hot and Cold Water Hoses for Washer		

- Required accessory is sold separately. It can be ordered through LG Website.
  US: www.lg.com/us

NOTE

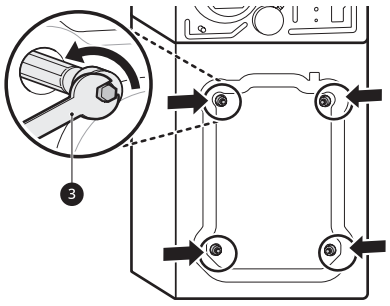
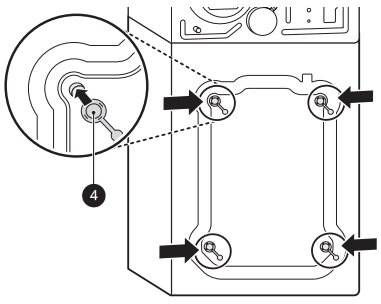
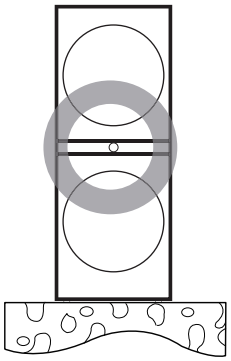
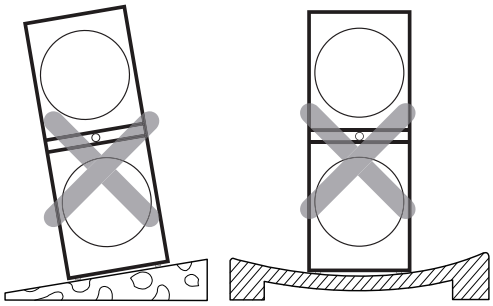
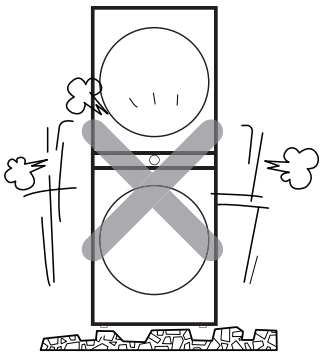
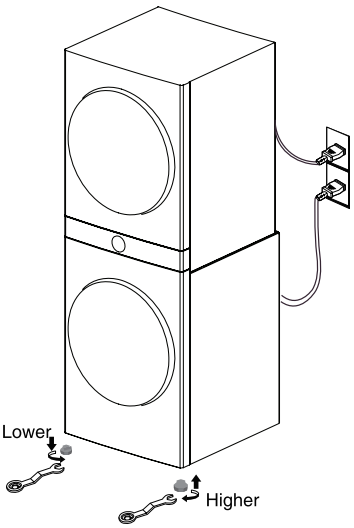
- Contact LG Customer Service at 1-800-243-0000 (1-888-542-2623 in Canada) if any accessories are missing.
- For your safety and for extended product life, use only authorized components. The manufacturer is not responsible for product malfunction or accidents caused by the use of separately purchased unauthorized components or parts.
- The images in guide may be different from the actual components and accessories, and are subject to change by the manufacturer without prior notice for product improvement purposes.

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 VAC, remove the transit bolts, level the appliance, 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.

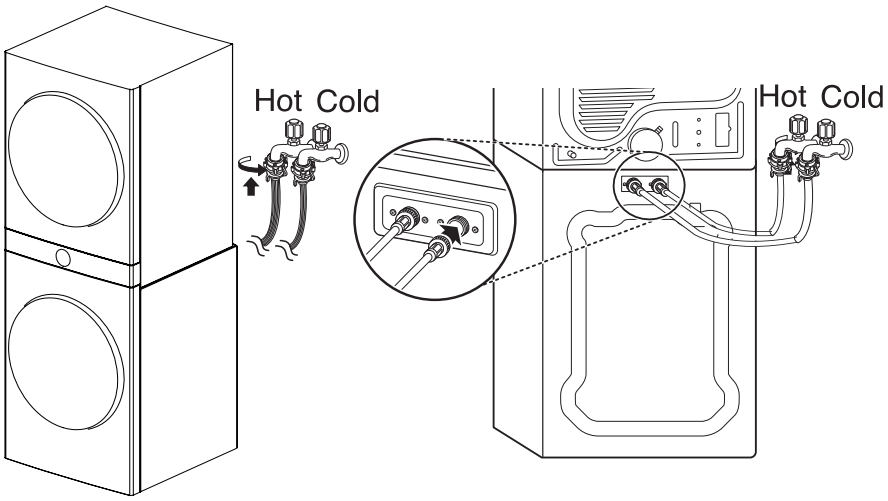
■ STANDARD INSTALLATION

The appliance should be installed as follows:

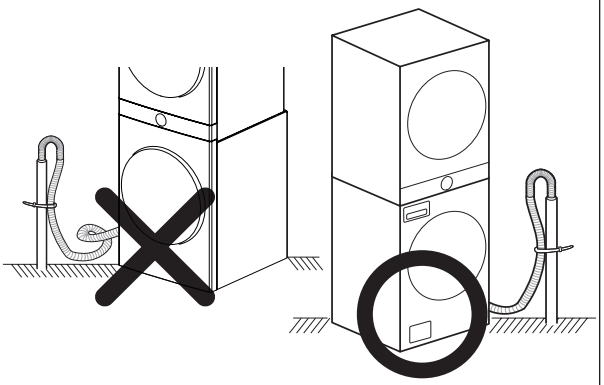
REMOVE THE SHIPPING BOLTS	INSTALL THE APPLIANCE ON A FLAT AND FIRM SURAFCE	ADJUST THE LEVELING
• Remove the 4 shipping bolts with the supplied wrench. ※ Remove the lower bolts fist. It is easier that way. • Keep the shipping bolts and spanner for future use. • Insert the 4 caps (provided) into the hole.   	  	• Turn the leveling feet to adjust the appliance.  • Turn clockwise to raise; counterclockwise to lower. • Do not raise the front of the appliance with a wood block or similar object. Doing so can cause serious injury or death.

■ HOW TO CONNECT THE WASHER INLET HOSE

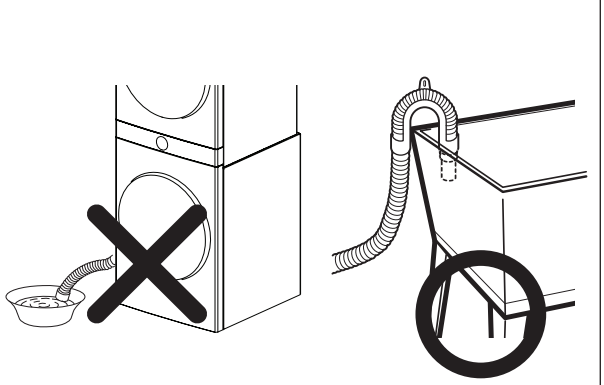
- Verify that the rubber washer is inside of the valve connector.
- Tighten the inlet hose securely to prevent leaks. Install the inlet hose to correct temperature water tap.
- Otherwise, it cause drips on the drawer panel handle and drawer panel.



■ CONNECT THE DRAIN HOSE



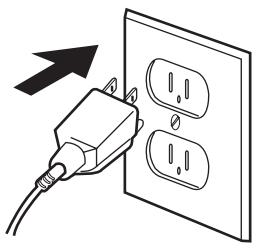
• Make sure that the hose is not twisted.



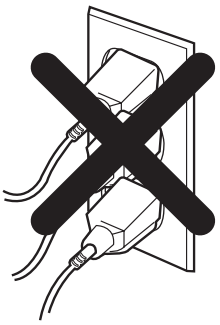
• Avoid submerging the end of the hose.

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

■ CONNECT POWER PLUG



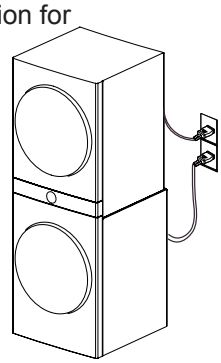
• Connect the power plug to the wall outlet.



• Avoid connecting several electric devices, as doing so may cause a fire.

■ TEST OPERATION (WASHER)

1 Preparation for washing.



- Connect the power plug to the outlet.
- Connect the inlet hoses.

2 Press the POWER button.

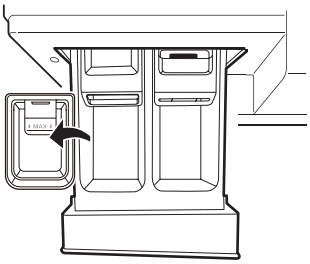
WASHER

3 Press and hold the START/ PAUSE button

NOTE

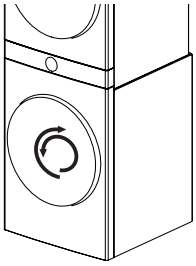
- Start/Pause button will operate when you press and hold 1second, not touch.
- Listen for a click to determine if the door has locked.

4 Check the water supply.



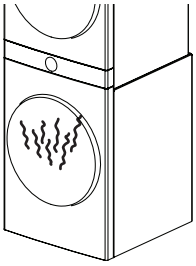
- Check if water is supplied through the detergent dispenser.

5 Check the automatic reverse rotation.



- Check if the drum rotates clockwise and counterclockwise.

6 Check the water heating function.



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

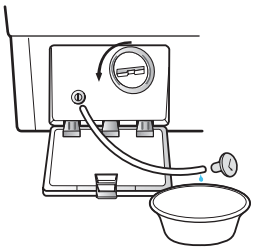
7 Check the drain and spin functions.

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

8 Press and hold the START/ PAUSE button.

- Listen for a click to determine if the door is unlocking.

9 Water removal



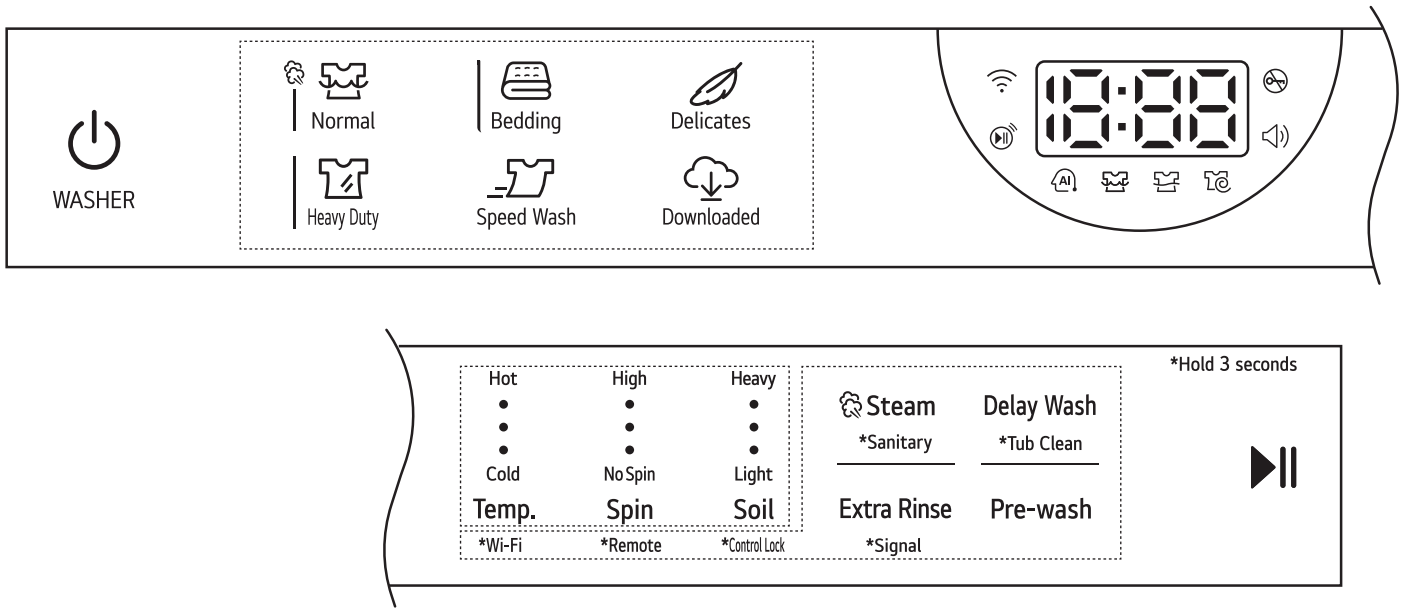
- If SERVICE is needed during check, remove the remaining water by pulling out the hose cap.

5. OPERATION

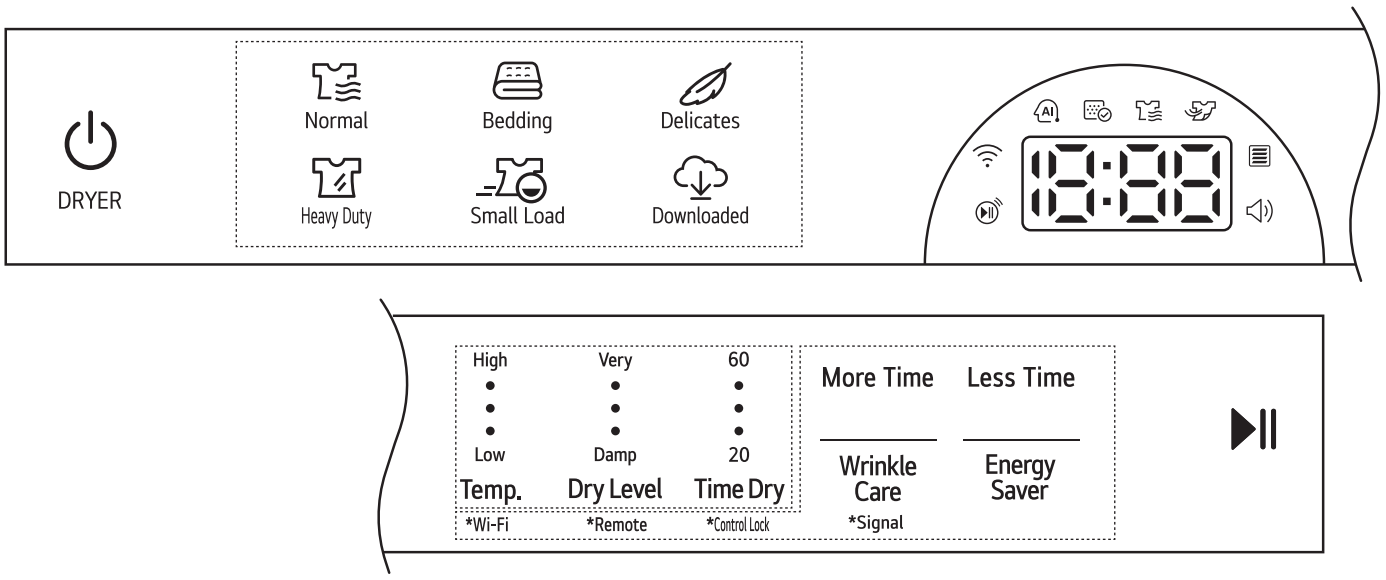
5-1. Control Panel Features

#W3S1CWKB*

■ WASHER



■ DRYER



5-2. Cycle Guide(Washer)

Turn the knob or press the button to select the desired cycle. When you select a wash cycle, the light for the corresponding wash cycle will turn on.

NOTE

- Whenever load weights are mentioned, assume 1 lb (0.45 kg) = 1 thick bath towel (dry).

- **Temp erature: Cold > Cool > Warm > Very Warm > Hot**
- **Spin: No Spin > Low > Medium > Medium High > High**
- **Soil: Light > Limited > Normal > Moderate > Heavy**

Cycle	Normal	
Description	Use to wash all normal items such as cotton, linen, shirts, jeans or mixed loads, except delicate fabrics such as wool or silk. • Pressing the **Start/Pause** button without selecting a cycle will cause the Normal cycle to begin immediately, using the default settings.	
Wash Temp.	Default: **Warm**	Available: All
Spin Speed	Default: **Medium High**	Available: **High, Medium High, Medium, Low**
Soil Level	Default: **Normal**	Available: All

Cycle	Bedding	
Description	Suitable for washing blankets or bulky items which have difficulty absorbing water, such as pillows, blankets, comforters, sheets or pet bedding. • Do not use this cycle to wash a mixed load of bedding and non-bedding items. • Do not mix large/bulky items with smaller articles of clothing. • Do not wash excessively large items. If large/bulky items do not fit easily into the tub, there may not be enough room for them to move during washing.	
Wash Temp.	Default: **Warm**	Available: **Very Warm, Warm, Cool, Cold**
Spin Speed	Default: **Medium High**	Available: **Medium, Low, No Spin**
Soil Level	Default: **Normal**	Available: All

Cycle	Delicates	
Description	Suitable for washing dress shirts/blouses, nylons, lingerie, or sheer and lacy clothes which can easily be damaged. **(less than 8 lb (3.63 kg))**	
Wash Temp.	Default: **Cool**	Available: **Warm, Cool, Cold**
Spin Speed	Default: **Medium**	Available: **Medium, Low, No Spin**
Soil Level	Default: **Normal**	Available: All

Cycle	Heavy Duty	
Description	Suitable for washing heavily soiled laundry, such as cotton fabrics, using more powerful wash motions. • When washing large loads, there will be brief periods of **2 minutes** or more without agitation. These soak periods are part of the cycle's design, and are normal.	
Wash Temp.	Default: **Warm**	Available: All
Spin Speed	Default: **High**	Available: **High, Medium High, Medium, Low**
Soil Level	Default: **Heavy**	Available: All

Cycle	Speed Wash	
Description	Quickly washes lightly soiled clothing and small loads. For high wash and rinse efficiency, wash small loads of 2-3 lightly soiled garments. **(less than 3 lb (1.36 kg))** • Use very little detergent in this cycle. To add an extra rinse, use the **Extra Rinse** option.	
Wash Temp.	Default: **Very Warm**	Available: **Very Warm, Warm, Cool, Cold**
Spin Speed	Default: **High**	Available: All
Soil Level	Default: **Light**	Available: All

Cycle	Downloaded(Rinse + Spin)	
Description	Use a smartphone to download a specialized cycle to this cycle position. • The default cycle is **Rinse+Spin.** This cycle is also available for download. • Refer to the **LG ThinQ** application to see the cycles available for download.	
Wash Temp.	Default: **Cool**	Available: **Cool**
Spin Speed	Default: Medium **High**	Available: All
Soil Level	Default: **-**	Available: -

Available Options

NOTE

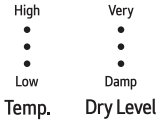
• **Delay Wash** and **Extra Rinse** can be selected for every cycle in this table.

Cycle	Steam	Pre-wash
Normal	●	●
Bedding	●	●
Delicates		●

Cycle	Steam	Pre-wash
Heavy Duty	●	●
Speed Wash		
Downloaded default: **Rinse+Spin**		

5-3.Cycle Guide (Dryer)

The appliance automatically sets the dryness level and temperature at the recommended setting for each cycle. The estimated time remaining will be shown in the display.



- **Temperature: Low > Medium Low > Medium > Medium High > High**
- **Dry Level: Damp > Less > Normal > More > Very**

Cycle	Normal	
Description	Use this cycle for drying all normal items such as cotton, linen, shirts, jeans or mixed loads, except delicate fabrics such as wool or silk.	
Temp.	Default: **Medium High**	Available: **Medium High**
Dry level	Default: **Normal**	Available: **All**

Cycle	Bedding	
Description	Use this cycle for drying blankets or bulky items such as pillows, blankets, comforters, sheets or pet bedding.	
Temp.	Default: **Medium**	Available: **Medium**
Dry level	Default: **Normal**	Available: **Very, More, Normal**

Cycle	Delicates	
Description	Use this cycle for drying dress shirts/blouses, nylons, lingerie, or sheer and lacy clothes which can easily be damaged.	
Temp.	Default: **Medium Low**	Available: **Medium Low**
Dry level	Default: **Normal**	Available: **All**

Cycle	Heavy Duty	
Description	Use this cycle for drying heavy-duty clothes like jeans or garments that need extra drying.	
Temp.	Default: **High**	Available: **High**
Dry level	Default: **Normal**	Available: **All**

Cycle	Small Load	
Description	Use this cycle for drying light or small items. (up to 3 items)	
Temp.	Default: **High**	Available: **High**
Dry level	Default: **Normal**	Available: **Very, More, Normal**

Cycle	Downloaded (Perm. Press)	
Description	Use a smartphone to download a specialized cycle to this cycle position. • The default cycle is Perm. Press. This cycle is also available for download. • Refer to the LG ThinQ application to see the cycles available for download.	
Temp.	Default: **Medium**	Available: **Medium**
Dry level	Default: **Normal**	Available: **All**

Available Options

† This option is automatically included in the cycle and can be deselected.

NOTE

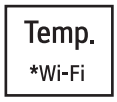
- The **Energy Saver** option is set to on by default. If you turn on the dryer and set the **Energy Saver** option to off, the **Energy Saver** option is turned off when you turn on the dryer.

Cycle	Wrinkle Care	Energy Saver
Normal	●	●†
Bedding		
Delicates	●	
Heavy Duty	●	
Small Load	●	
Downloaded default: **Perm. Press**	●	

5-4. Special Functions

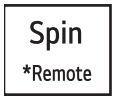
The option buttons also activate special functions, including Wi-Fi, Remote, Control Lock, Sanitary, Tub Clean, Signal, and Drum Light. Press and hold the option button marked with the special function for 3 seconds to activate.

Wi-Fi



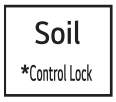
Use this option for connecting to the internet through your home Wi-Fi network.

Remote



Use a smart phone to control your appliance remotely Also, it is possible to monitor your cycle operation so you know how much time is left in the cycle.

Control 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 Control Lock button for 3 seconds to activate or deactivate The Control Lock function The Control Lock indicator will be shown in the display. And all buttons are disabled except the ON/OFF button.

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

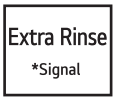
Sanitary

This cycle washes clothes at a high temperature.

Tub Clean

This is a special cycle designed to clean the inside of the washer.

Signal



The washer plays a melody when the wash cycle is finished. The buttons make a sound each time a button is pressed. Use this option to turn on/off the melody and button tones. Press and hold the Signal button for 3 seconds.

6. TEST MODE

6-1. Safety Caution

- There can be live AC and DC voltage on some terminals on the main board, even when the machine is turned off. Be cautious to avoid electric shock when disconnecting parts while troubleshooting. (Wear Static Discharge gloves when working.)
- After cutting off the power when changing the PWB disconnecting, or reassembling.
- Be careful static when handing the PWB assembly, and use Electro Static Discharge plastic pack when shipping or storing it.

6-2. Load Test Mode (Washer)

The washer must be empty and the controls must be in the off state.
1. Touch the "Extra Rinse" and "Soil" and then press the Power button.
2. Then buzzer will sound twice.
3. Press the Start/Pause ⏯ button repeatedly to cycle through the test modes.

key press(time)	Motion State	Inspection Type	Display	Check Point
0		LED inspection and door S/W operation		Led full on → Data under the LED window A buzzing sound when the control button is pressed. Initial characters→IU:XX (Main version:XX)→Id:XX (Display Version: XX)
1		Check WIFI Modem	“go” or “---”	
2		Drum tub right turn (50 rpm) and tub lamp on	42~50	Check drum action and noise
3		Low speed spin (600 rpm)	55~65	Check drum action and noise
4		High speed spin (Max rpm)and Check Wifi modem	90~120	Check drum action and noise
5		Pre-wash Valve(Auto wash valve) operate	255	Check water level indication (225-255)
6		Main wash valve operate	255	Check water level indication (225-255)
7		Hot valve operate	255	Check water level indication (225-255)
8		Bleech valve operate(Atomazing Valve)	255	Check water level indication (225-255)
9		Dry Valve operate	255	Check water level indication (225-255)
10		Steam valve operate	255	Check water level indication (225-255)
11		Drum tub left turn (50 rpm) and tub lamp on	42~50	Check drum action and noise
12		wash heater operate	23	water temperature detection check
13		Circular Pump operate and Door Lamp On	255	Check water level indication (225-255)
14		Drain Pump Operation and Auto Dispenser Operation	255	Check water level indication (225-255)
15		Steam level sensor	-	Steam Model only
16		Steam heater operate	-	Steam Model only
17		Dry blast Fan / Dry Heater movement	-	Steam Model only
18		Modem Error Check Operate	nE or nF	
19		OFF		All Led Off

※This error display LQC Test Mode only for Wi-Fi mo.del

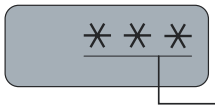
There is a problem with the connection between display pcb and Wi-Fi module.
Please change this service part.

There is a problem Wi-Fi modu.le
Please change this service part.

There is no problem with Wi-Fi modu.le
This is wi-fi program version. Wi-Fi version can be cha.nge

6-3. How To Check The Water Level Frequency

Press and hold the **Soil** and **Delay Wasy** button simultaneouslyl.



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

So, for example a display indicating 241 : a Water level frequency of 241 x. 1kHz
= 24.1 kHz

6-4. Diagnostic Test (Dryer)

1. This TEST should be used for Factory test/Service test. Do not use this DIAGOSTIC TEST other than specified.
2. Activating the Heater manually with the Door open may trip the thermostat attached to the heater, therefore do not activate it manually.(Do not press the door switch to operate the heater while the door is open)

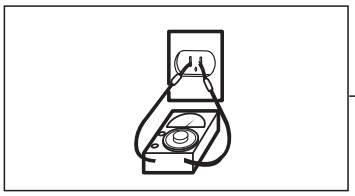
■ACTIVATING THE DIAGNOSTIC TEST MODE

1. UNIT must be in standby (unit plugged in, Display off)
2. Press Power and press Dry Level and Wrinkle Care simultaneously for one half second.
3. Press START/PAUSE button to advance through disgnostics.

Pressing the START/PAUSE	CHECKING ACTION	DISPLAY	CHECKPOINT
None	Electric control & Temperature sensor	L0(Elc Type) L0(Gas Type)	Standard
		U-	MAIN PGM
		d-	DISPLAY PGM
		tE	Thermistor open
			Thermistor shorted
Once	Motor+Controller	235 = Low moisture 30 = High moisture	Motor runs Displays Moisture Sensor Operation if moisture sensor is contacted with damp cloth. The display number is below 180 in normal condition.
Twice	■ELECTRIC TYPE Heater1 (2700W) ■GAS TYPE Motor+Gasvalve	Current Temp. (5~70)	■ELECTRIC TYPE Heater 1 is energized - 2700 W ■GAS TYPE Valve not energized (Temperature in the drum is displayed in degrees C.)
3 times	■ELECTRIC TYPE Motor+Heater 1 + Heater 2(5400W) ■GAS TYPE Motor+Gasvalve	Current Temp. (5~70)	■ELECTRIC TYPE Heater 1 and heater 2 are energized - 5400 W ■GAS TYPE Gas valve is energized (Temperature in the drum is displayed in degrees C.)
4 times	Motor, Heater off, Steam Heater on(1.2sec), Valve on	0:00	
5 times	Loads off	0:00	
6 times	■ELECTRIC TYPE Motor+Heater 1 + Heater 2(5400W) ■GAS TYPE Motor+Gasvalve		
7 times	Loads off, Controller off		

■ Test 1 120V AC Electrical Supply

Caution	When measuring power, be sure to wear insulated gloves to avoid an electric shock.
Trouble Symptom	No power was applied to controller. Display (LCD or LED) off.
Measurement Condition	Dryer power on, collector plugged in.

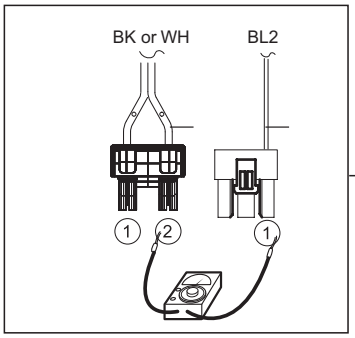


Check the outlet, is the voltage 110 V ~ 125 V AC?

NO

- Check the fuse or circuit breaker

YES

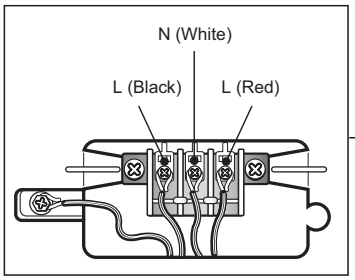


Check if the voltage measured between connector BK- ① or WH- ② (Black Wire) linked to the controller and BL2- ① (White Wire) Is 110~125 V?

NO

- Check if power cord is properly connected.

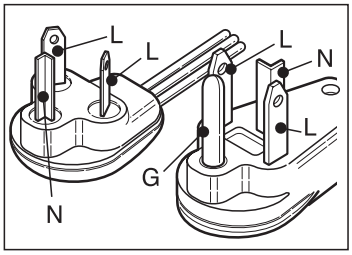
YES



① Check if the controller wire is disconnected.
② Check if terminal block and power cord are connected (Check Plug).
- Does power cord N (Naturall) line match to terminal center N (Natural) line?

NO

- Reconnect the controller.



YES

Replace controller.

Caution	When measuring power, be sure to wear insulated gloves to avoid an electric shock.
Trouble Symptom	No power was applied to controller. Display (LCD or LED) off.
Measurement Condition	Dryer power on, collector plugged in.

1. Power Connection

< Table1 > : Connection of the Tap Relay with Heater (Electric)

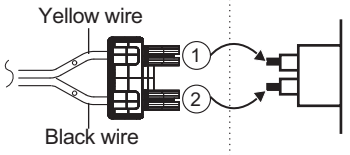
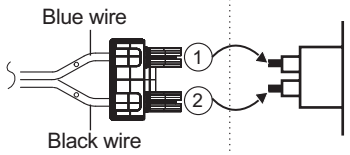
	Tab Relay 1	Tab Relay 2	Heater 1	Heater 2	Remark
High Mid High Medium	on	on	on	on	Temperature control below 68 ± 4˚C Turn on heater 1 and heater 2.
Low Extra Low	on	off	on	off	Temperature control below 52 ± 4˚C Turn on only heater 1.

< Table 2 > : Connection of the Tab Relay with Burner (Gas)

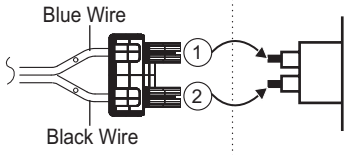
	Tab Relay 1	Burner	Remark
High Mid High Medium	**O**	**O**	Temperature control below 70 ± 4˚C Turn on burner
Low Extra Low	**O**	**O**	Temperature control below 47 ± 4˚C Turn on burner

2. Status Mode Of The Connection

< Table1 > : Connection of Tap Relay with the PCB ASSEMBLY (Electric)

	Color	Connection		Remark
		Harness	PCB	
Connector Housing	Black			Check the matching color between harness wire and tap relay. (Black housing – black tap relay)
	White			Check the matching color between harness wire and tap relay. (White housing – white tap relay)

< Table 2 > : Connection of Tap Relay with PCB ASSEMBLY (Gas)

	Color	Harness	PCB	Remark
Connector Housing	Black			Check the matching color between harness wire and tap relay. (Black housing – black tap relay)

3. Status Mode Of Wrong Connection

< Table1 > : Incorrect connection of the tap relay and connector housing (Electric)

Items	Case	Heater1 Operation(black)	Heater2 operation(White)	PCB condition of operation
1.Black and White Housing	Wire ①, ② CROSS	Off	Off	Power Off
2.Black Housing	Wire ①, ② CROSS	Off	Off	Power Off
3.White Housing	Wire ①, ② CROSS	Normal	Normal	Power Off
*4.Black and White Housing	Housing CROSS	Heater 2	Heater 1	Power Off
5.Black and White Housing	Housing and Wire ①, ② CROSS	Off	Off	Power Off

< Table2 > : Incorrect connection of the tap relay and connector housing (Gas)

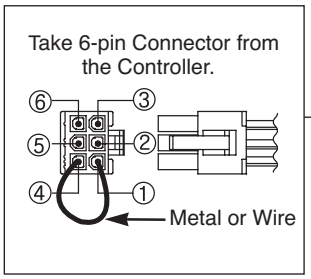
Items	Case	Heater1 Operation(black)	Heater2 operation(White)	PCB condition of operation
1. Black and white housing	Wire ①, ② CROSS	Off	Off	Power Off

⚠ WARNING

CAUTION! Improper connection of the heater can damage the heater or the main board.

■ Test 2 Thermistor Test Measure with Power Off

Caution	Before measuring resistance, be sure to turn the power off and discharge voltage. (When discharging, contact the metal plug of power cord with the ground.)
Trouble Symptom	① During diagnostic test, tE1 and tE2, an error occurs. ② During operation, the heater does not turn off. ③ Difference between actual and sensed temperature is significant.
Measurement Condition	After turning power off, measure the resistance.

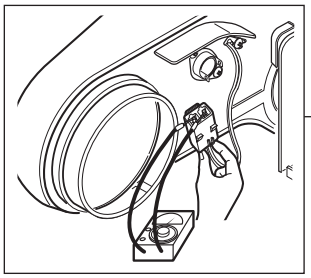


Short with metal between the NA6 connector's Pin ① (Yellow Wire) and Pin ② (Blue Wire) to Controller.

YES

- Check if control and the 6-pin connector are properly connected.
- Replace controller.

NO



Check if resistance is in the range of Table 1 when measuring resistance between terminals after separating harness from thermistor assembly connector.

NO

- Replace thermistor.

YES

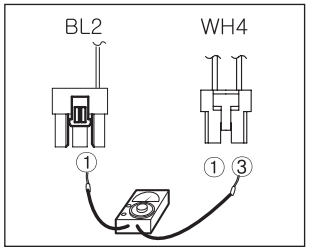
Check harness-linking connector.

■ **Table 1. Resistance for Thermistor Temperature.**

Air TEMP. [°F(°C)]	RES. [KΩ]	Air TEMP. [°F(°C)]	RES. [KΩ]	Air TEMP. [°F(°C)]	RES. [KΩ]
50°F (10°C)	18.0	90°F (32°C)	7.7	130°F (54°C)	2.9
60°F (16°C)	14.2	100°F (38°C)	6.2	140°F (60°C)	3.0
80°F (21°C)	11.7	110°F (43°C)	5.2	150°F (66°C)	2.5
70°F (27°C)	9.3	120°F (49°C)	4.3	160°F (71°C)	2.2

■ Test 3 Motor Test

Caution	Before measuring resistance, be sure to turn the power off and discharge voltage. (When discharging, contact the metal plug of power cord with the ground.)
Trouble Symptom	Drum dose not rotate; no blower function, no heater function.
Measurement Condition	Turn the dryer's power off, then measure resistance.



Is resistance below 3 between connector BL2- ① (White wire) and WH4- ③ (Brown wire)?
※ Measure while door is closed.

YES

- Replace control. (Relay check)
- Check controller connector.

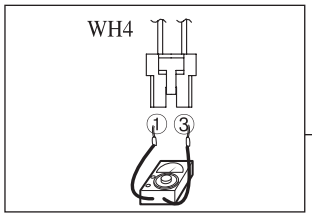
NO

Is resistance below 3 between connector BL2- ① (White wire) and WH4-① (Yellow wire)?
※ Measure while door is closed.

NO

- Check if door frame presses door switch knob.
- Check door switch. Check harness connection.

YES

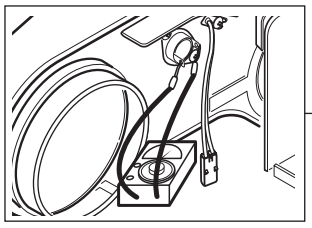


Is resistance below 3 between connector WH4-① (Yellow wire) and WH4-③ (Brown wire)?

YES

- Replace control. (Relay check)
- Check controller connector.

NO

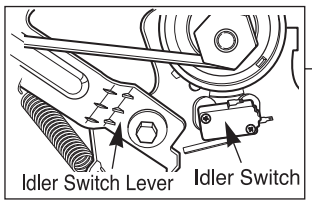


Is resistance below1 between terminals of outlet thermostat attached to blower housing?

NO

- Replace outlet
- Thermostat. (Refer to 'component')

YES



Does idle switch attached to motor bracket operate level by drum belt?
(Not operating lever is normal.)

YES

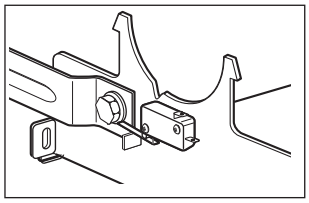
- Check idler assembly.
- Drum belt cuts off
- Drum belt takes off from motor pulley.

Is resistance below 1 between idler switch terminals?

NO

- Replace idler switch.

YES



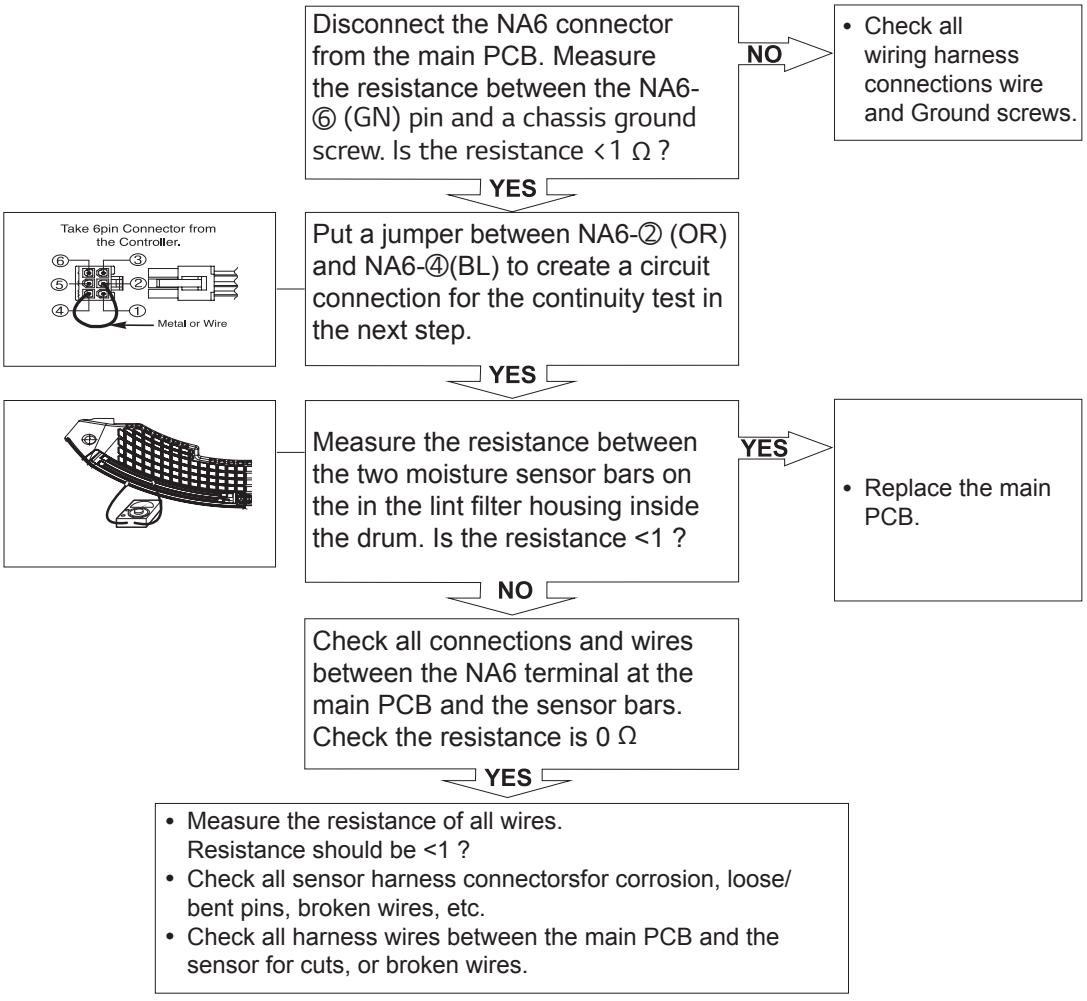
- Check motor. (Refer to 'motor diagram & check')
- Check if control connector is contacted.

■ **Test 4** Moisture Sensor

NOTE: This test has two parts. The best test of the moisture sensing system is done in the diagnostic mode. This FUNCTIONAL TEST will test the sensor bars, wiring harness and PCB operation. If the results of this test are normal, the sensor system and PCB response are normal. The problem is somewhere else.

FUNCTIONAL TEST (Control)

1. Enter the diagnostic mode. (See DIAGNOSTIC TEST MODE.)
2. With the door closed, press the START/PAUSE button once. The dryer will start tumbling without heat.
3. Open the door. The drum will stop tumbling and the “dE” error code will be displayed and the chime will sound several times (if turned on).
4. With one hand, reach into the drum and place your fingers across the moisture sensor bars. (CAUTION: The dryer drum will turn in this test. Your hand will be close to the rotating drum vanes. Keep your hand close to the filter housing to avoid being hit by the moving vanes.)
5. Use your other hand to press the door switch. The dryer drum will start rotating automatically.
6. Observe the numerical display. Depending on conditions, the number displayed should be between 30 and 255. The numbers should start decreasing as the control senses the moisture in your skin.
7. After you have observed the number decreasing, remove your fingers from the sensor bars. The numbers will continue to decrease for a few seconds (minimum 30) and the begin to increase (maximum 255).
8. If this test fails, proceed with the MECHANICAL TEST below.



■ **Test 5** Door Switch Test

NOTE: This test has two parts. The best test of the door switch system is done in the diagnostic mode. This FUNCTIONAL TEST will test the door switch, wiring harness and PCB operation. If the results of this test are normal, the door switch system and PCB response are normal. The problem is somewhere else.

FUNCTIONAL TEST (Control)

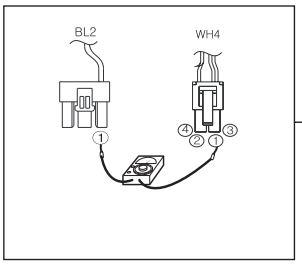
1. Enter the diagnostic mode. (See DIAGNOSTIC TEST MODE.)
2. With the door closed, press the START/PAUSE button once. The dryer will start tumbling without heat.
3. Open the door. The drum will stop tumbling. The “dE” error code should be displayed, the chime should sound seven times (if turned on), and the drum light (if equipped) should come on. If the “dE” error code is not displayed or the light does not come on, proceed with the MECHANICAL TEST below. If the error displays and light comes on, the door switch is working properly.

Disconnect the WH1 and BL3 connector from the main PCB. Measure the resistance between the NA6- ⑥(GN) pin and a chassis ground screw. Is the resistance <1 Ω?

NO

- Check all wiring harness connections wire and Ground screws.

YES

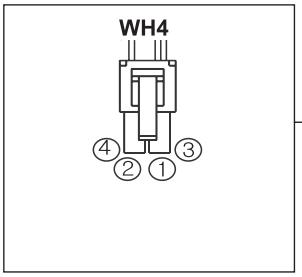


Disconnect the BL2 and WH4 connector from the main PCB. Measure the resistance between BL2- ①(WH) and WH4- ①(YL). Is the resistance <1 with the door closed and with the door open?

YES

- Replace the main PCB.

NO



* Skip this step if the dryer does not have a drum light.

Disconnect the WH4 and the black tab relay connectors from the main PCB. Measure the resistance between WH4-①(YL) and WH4-④(BK). Is the resistance <1**Ω** with the door opened and ∞ Ω with the door closed?

NO

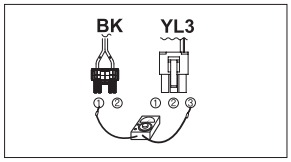
- Replace the light bulb.
- Replace the light socket.

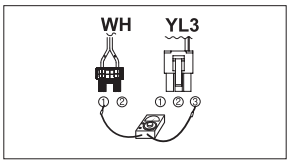
YES

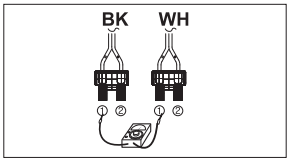
Refer to the individual door switch and light bulb/socket component tests.

■ Test 6 Heater Switch Test - Electric Type

Caution	Before measuring resistance, be sure to turn the power off and discharge voltage. (When discharging, contact the metal plug of power cord with the ground.)
Trouble Symptom	While operating, Heating will not work. Drying time takes longer.
Measurement Condition	After turning the power off, measure the resistance.







Enter diagnostic mode and press the START/ PAUSE button twice. Measure the voltage between YL3-③(WH) and the YL wire on the black tab relay. Is the voltage 240 VAC?
- NO → • Check power supply.
- YES ↓

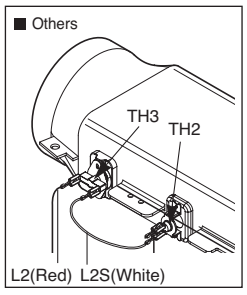
Disconnect the YL3, black tab relay and white tab relay connectors at the main PCB. Measure the resistance between YL3- (WH) and the BL wire on the black tab relay connector. Is the resistance 18-22 ?
- NO → • Check wiring and connectors to the element. • See element component test.
- YES ↓

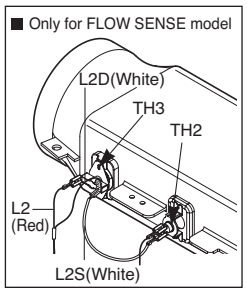
Measure the resistance between YL3- ③ (WH) and the YL wire on the white tab relay connector. Is the resistance 18-22 Ω?
- NO → • Check wiring and connectors to the element. • See element component test.
- YES ↓

Measure the resistance between the BL wire on the black tab relay and the YL wire on the white tab relay connectors. Is the resistance 36-44 Ω?
- NO → • Check wiring and connectors to the element. • See element component test.
- YES ↓

Measure the resistance between terminals 1 (RD) and the heater housing. Is the resistance <1 Ω?
- NO → • Replace the element.
- YES ↓

Refer to the hi-limit thermostat and thermal cut off component tests.

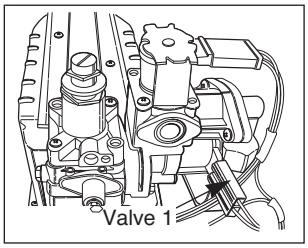


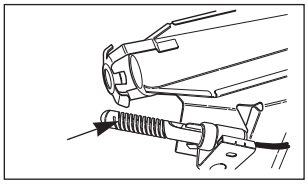


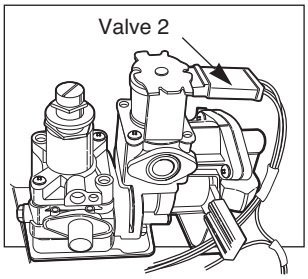
※Wires
- L2(Red)
- L2D(White) : Go to the duct(YL3 in main pcb)
- L2S(White) : Go to the safety.

■ Test 7 Gas Valve test - Gas Type

Caution	When measuring power, be sure to wear insulated gloves to avoid electric shock.
Trouble Symptom	While operating, heating will not work. Drying time takes longer
Measurement Condition	With dryer power on







Power on & start (Normal cycle)

NO

When measuring Valve 1 voltage, is the valve at least 90 V DC? **NO** → • Check thermostat hi-limit safety

YES

Igniter operates?
(after 1 minute, igniter becomes reddish) **NO** → • Check Igniter and frame detect

YES

When measuring Valve 2 voltage, value is more is the valve at least 90 V DC? (10 sec after igniter off) **YES** → • Check gas connection or gas supply

NO

When measuring terminal resistance on valve 1 and valve 2, valves are more than1.5 ~ 2.5 kΩ? (Measure after off) **YES** → • Change valve

NO

If valve 1 and valve 2 read less than 10 V DC, are the valves off? **NO** → • Change valve

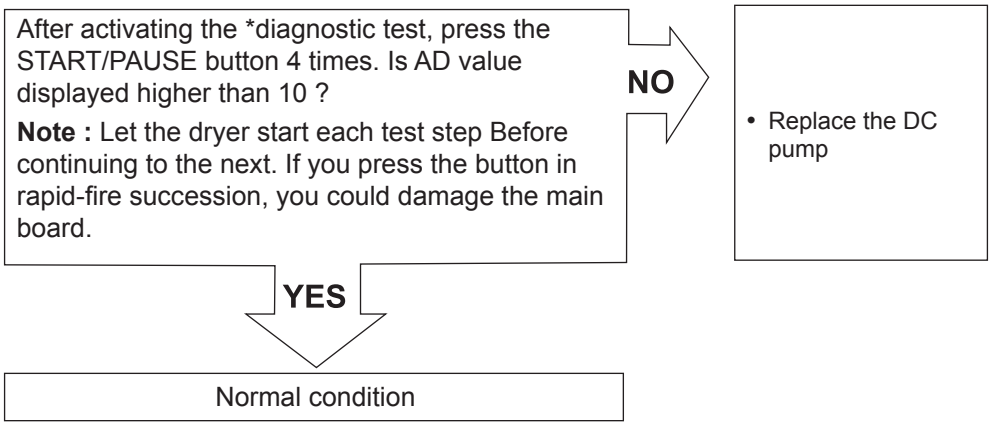
YES

- Harness check
- Controller change

NOTE: When the gas valve operates after disassembling, ignition will be off several seconds.
It is normal because there is no circulation of air

■ Test 8 Motor Assembly, DC, Pump

Caution	Before measuring resistance, be sure to turn power off, and do voltage discharge. (When discharging, contact the metal plug of power cord with the ground wire.)
Trouble Symptom	During the diagnostic test, E5 error occurs.
Measurement Condition	Turn the dryer's power off, then measure resistance.



* see page 26 for diagnostic test information.

6-5. Installation Test (Duct Check)

Once you have completed the installation of the dryer, use this test to make sure the condition of the exhaust system is adequate for proper operation of the dryer. This test should be performed to alert you to any serious problems in the exhaust system of your home.

- Your dryer features Flow Sense™, an innovative sensing system that automatically detects blockages and restrictions in dryer ductwork. Keeping ductwork clean of lint buildup and free of restrictions allows clothes to dry faster and reduces energy use.

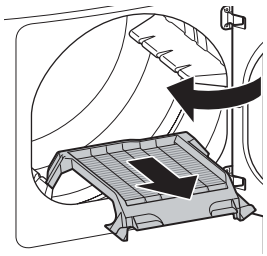
NOTE

- The dryer should be cool before starting this test. If the dryer was warmed up during installation, run the Air Dry cycle for a few minutes to reduce the interior temperature.

Activating the Installation Test

1 Remove the drying rack and literature, and then close the door.

Do not load anything in the drum for this test, as it may affect the accuracy of the results.



2 Press and hold the Signal and Temp. buttons and then press the Power button.

(On models with a glass touch control panel, press the Power button then IMMEDIATELY press and hold the 'Energy Saver' + 'Reduce Static' buttons.)
This button sequence activates the installation test. The code InS will display if the activation is successful.

3 Press the START/PAUSE button.

The dryer will start the test, which will last a few minutes. The heat will be turned on and the temperatures in the drum will be measured.

4 Check the display for results.

During the test cycle, monitor the Flow Sense™ display on the control panel. If the Flow Sense™ LED is not turned on, when the cycle ends, the exhaust system is adequate. If the exhaust system is severely restricted, the Flow Sense™ LED will be turned on. Other problems may also be shown with error codes. See the chart below for error code details and solutions.

LED; turned on :
RESTRICTED

The Flow Sense™ LED indicates that the exhaust system is severely restricted. Have the system checked immediately, as performance will be poor.

5 End of cycle.

At the end of the test cycle, End will display. The test cycle will end and the dryer will shut off automatically after a short delay.

7. TROUBLESHOOTING

7-1. Safety Caution

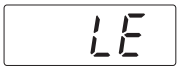
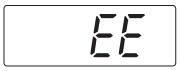
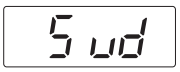
- There can be live AC and DC voltage on terminals on the main board, even when the machine is turned off. Be cautious to avoid electric shock when disconnecting parts while troubleshooting.
  (Wear Electro Static Discharge gloves when working.)
- After cutting off the power when changing the PWB assembly, disconnecting, or reassembling.
- Be careful static when handling the PWB assembly, and use Electro Static Discharge plastic pack when shipping or storing it.

7-2. 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 dE1 dE2 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.

■ WASHER

	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	1E	• 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 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 is consistently below 10 kHz or over 30 kHz.
6	DOOR OPEN ERROR	dE1 dE2	• 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		• The connector (3-pin, male, white) in the MOTOR HARNESS is not connected to the connector (3-pin, female, white) of STATOR ASEEMBLY. • The electric con tact between the connectors (3-pin, male, white) in the MOTOR HARNESS and 4-pin, female, white connector in the MAIN PWB ASEEMBLY is bad or unstable.
9	EEPROM ERROR		• EEPROM is out of order. • ※ Displayed only when the START/PAUSE button is first pressed in the Load Test Mode.
10	POWER FAILURE		• machine is working, the power is supplied rapidly.
11	Suds Error		• If the washing machine detedcts too many suds, it displays this error code and adds Suds Reducing cycle. This adds about two hours to the cycle time. If too many suds are detected during spinning, the washing machine stops to help prevent leaking.

▪ DRYER

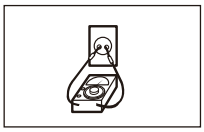
	DISPLAY	Checking Part	Cause	Remark
1	tE1	Thermistor of blower houing	• Outlet thermistor open shorted.	• tE1 error is displayed in the drying cycle or test mode.
2	tE2	Thermistor of blower houing	• Outlet thermistor open shorted.	• tE2 error is displayed in the drying cycle or test mode.
3	tE4	Thermistor of steam generator	• Steam generator thermistor open or shorted.	• tE4 error is displayed in the drying cycle or test mode. • Replace the steam generator.
4	dE	Door SW	• Door SW is abnormal. (only TEST MODE)	• dE error is only displayed in the test mode.
5	PS	Wire Connection (Black-White-Red)	• Wire Connection is wrong. • Wire Connection is loose.	• verify proper connection of the power cord. (Electric dryer only.) * PS means power supply.
6	EE	EE PROM Error	• EE PROM operation is adnormal.	• EE error is displayed only in the test mode
7	nC	NFC module	• NFC module open or shorted	• nC is displayed only in the test mode
8	nU	NFC module	• NFC module is wrong	• nC is displayed only in the test mode
9	gAS	Gas Supply	• Gas supply or service turned off (Gas Model Only)	• Confirmthat house gas Shut off and the dryer gas shutoff are both fully open

7-3. Troubleshooting With Error (Washer)

⚠ CAUTION

- Be careful of electric shock and short circuit between parts when measuring output for fault diagnosis.
- When diagnosing faults, check the terminal coupling and wiring of each part first.
- About 220V is applied when each terminal is energized (excluding the sensor department).
- Refer to electrical wiring diagrams and circuits for the final between components.
  (The final diagram can be found in the MCS app.)

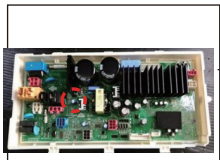
When the washing machine is not turned on



When measuring the outlet voltage, is it 110 volts?

No → Isn't that a blackout? Is the fuse box fuse blown? Does the circuit breaker work?

Yes



Is the LED (1) illuminated at power-on?

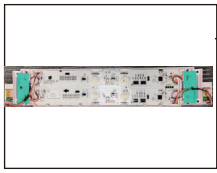
No → Main PWB Assembly change.

Yes

Is the NA101 connector missing or out of contact?

Yes → Connector re-connection and poor contact repair

No



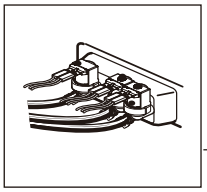
Is the withdrawal line from Display PWB Assembly broken?

No → Main PWB Assembly change.

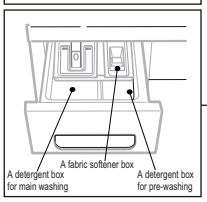
Yes

Display PWB Assembly change.

When the fabric softener is not injected

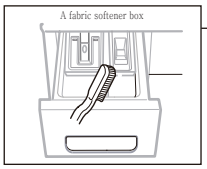


Is your water supply working?
- No → Refer to when water is not supplied
- Yes ↓



Is the water supply valve correctly connected to the wire and hose? (Refer to the run-off diagram of the MCS app)
- No → Refer to the drawing and connect it correctly.
- Yes ↓

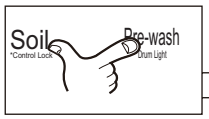
Did you put the fabric softener into the fabric softener box?
- No → Inserting correctly as shown on the left side
- Yes ↓



Is there any detergent or foreign substance stuck in the fabric softener cap?
- Yes → Cleaning the cap and box
- No ↓

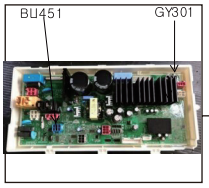
Did you use high viscosity fiber softener?
- Yes → Use low viscosity fabric softener

When the water supply is complete, but the tub(drum) doesn't turn.

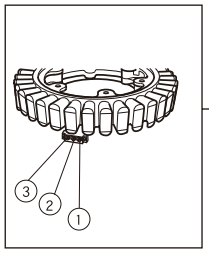


Is the number below 246 when the “Soil” and “Pre-wash” buttons are pressed at the same time?
- No → The water was not supplied until level 2 which is the operating level. (Refer to when water is not supplied
- Yes ↓

Does the drum turn right when the "Spin" and "Extra Rinse" buttons are pressed and the "Start/ Pause" buttons are pressed twice?
- Yes → It's normal.
- No ↓



Is the connector missing or poor contact? [BL451 GY301 by PWB Assembly]
- Yes → Reconnect connector and repair poor contact
- No ↓



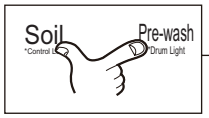
Is the terminal resistance of the motor connector shown below?
Terminal-to-terminal resistance : ①~② / ②~③ / ③~①
8.93±9.87%

Motor Terminal :	3	2	1

When measuring resistance, always unplug the power plug before measuring it.

- No → Change Stator Assembly

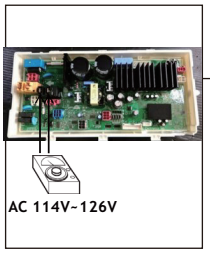
When it's not heated even though it's water supply



Is the number below 246 when the “Soil” and “Pre-wash” buttons are pressed at the same time when operating?

No → Connector re-connection and poor contact repair

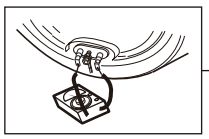
Yes



When the "Spin" and "Extra Rinse" buttons are pressed simultaneously and the "Start/Pause" buttons are pressed 12 times, is the voltage at the black Tab Realy (RL3) terminals of the Main PWB Assembly at AC 0V? (Power applied for 1 second, measured without disconnecting connector)
☞ When pressing 5 times, stop the motor and press it.

No → Main PWB Assembly

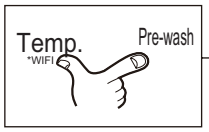
Yes



Is the front cover assembly capinet released after power off and the resistance value between the two terminals of the heater 10-30 (between 17-25 cooling conditions)?

No → Heater Assembly

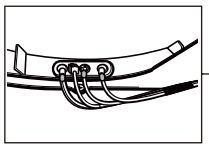
When heated continuously above the set water temperature.



When the "Temp.", Pre-wash" button is pressed simultaneously during operation, is it more than 10°C higher than the set temperature?

Yes → Check that the water supply valve is connected to the hot water faucet, and if not, check the main PWB assembly and replace it.

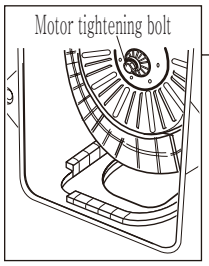
No



Is the resistance between the thermistor terminals 2.5K-180K after opening the front Cabinet Cover Assembly and disconnecting the thermistor connector?

No → Check the Wiring Diagram and replace the heater.

When it's not heated even though it's water supply



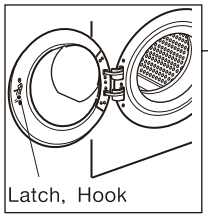
Has the motor engagement bolt been loosened?

→ Tighten the motor bolts completely.

Can the motor hear a friction tone?

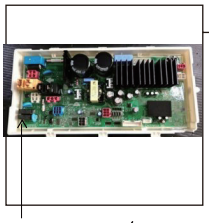
→ Replace Stator/Rotor Assembly

When dE1, dE2 is displayed



Does the Latch,Hook spring work?

→ Change Door Assembly



Is the connected white four pin connector on the Door Switch Assembly and the NA(4Pin) connector on the Main PWB Assembly properly connected?

→ Re-check after connection

Is the Door Switch Assembly broken?

→ Check and replace Door Switch Assembly

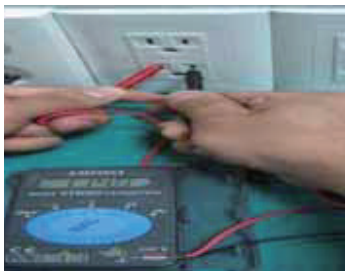
7-4. Troubleshooting Else (Washer)

⚠ 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.

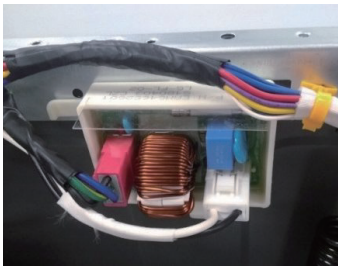
Yes

Is the current rating of multi-outlet power strip enough? (Avoid connecting several electric devices.)

No → Alternate with explanation.

Yes

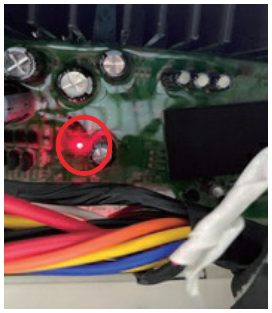
Is the connector connected to PCB/Noise filter disconnected or disassembled?



No → Reconnect or repair the connector.

Yes

Is LED on while the power is on?



No → Replace the MAIN PWB ASSEMBLY.

Yes

Connecting connector MAIN PWB~ Display PWB

No → Replace the DISPLAY PWB ASSEMBLY.

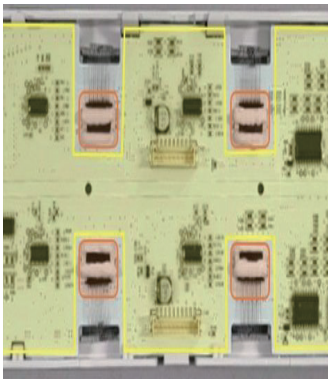
BUTTON DOESN'T WORK

Are the connectors to the MAIN board and DISPLAY board damaged or broken?

Yes → Reconnect or Repair the connector.

No

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

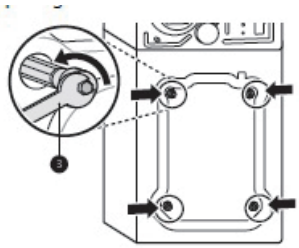


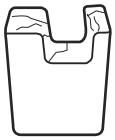
Yes → Replace the DISPLAY PWB ASSEMBLY.

VIBRATION & NOISE IN SPIN

Have all the transit bolts and base packing been removed?

No → Remove the transit bolts and base packing.





Base Packing

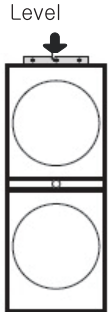
Yes

Is the washer installed on a solidly constructed floor?

No → Move the washer or reinforce the frloor.

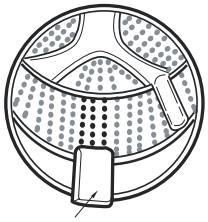
Check if the washer is perfectly level as follows:

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



Put an unbalance part (rubber) inside of drum and start QC test mode and run in high spin.

(Refer to section 6-2, 20p.) When the machine is spinning in high speed, verify that it is stable.

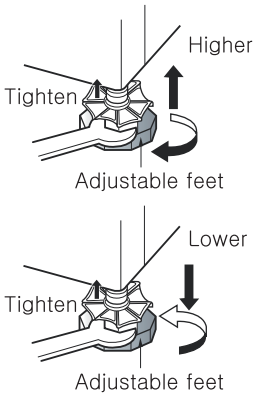


Unbalance Part

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.



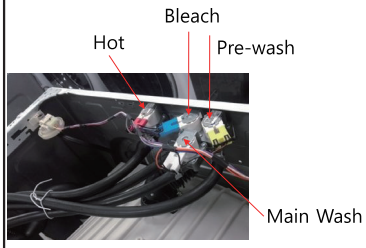
DETERGENT DOES NOT FLOW IN

Is water supplied?

No → Refer to NO WATER SUPPLY.

Yes

Are receptacles correctly connected to the terminals of the INLET VALVE ASSEMBLY?



No → Check the wiring.

Yes

Has detergent been put in the correct compartment of the dispenser?

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

No → Put the detergent in the correct place.

Pre wash

Main wash

● : Detergent

Yes

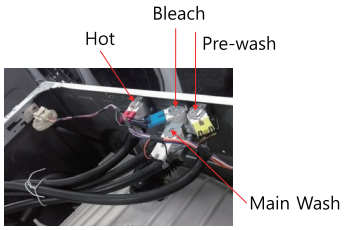
Is the detergent caked or hardened?

Yes → Clean the dispenser.

LIQUID DETERGENT/SOFTENER/ BLEACH DOES NOT FLOW IN

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.



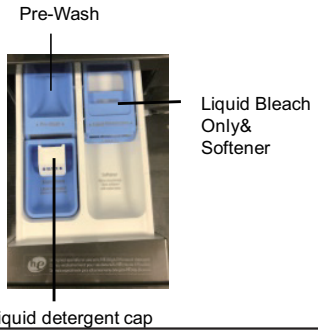
- Yes ↓

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

(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.



ABNORMAL SOUND

Is the motor bolt loosened?
- Yes → Secure the bolt.

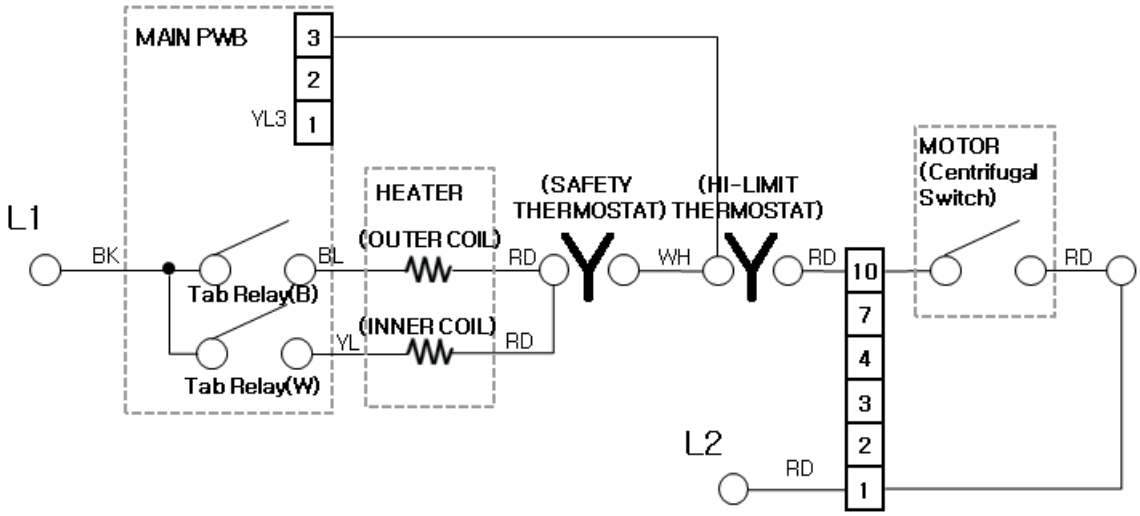
- No ↓

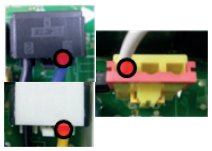
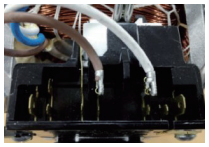
Is there friction noise coming from the motor?
- Yes → Check hall sensor. Replace If defective. Then check stator. Replace if necessary. Check rotor for broken magnets. Replace rotor if necessary.

7-4. Troubleshooting Else (Dryer)

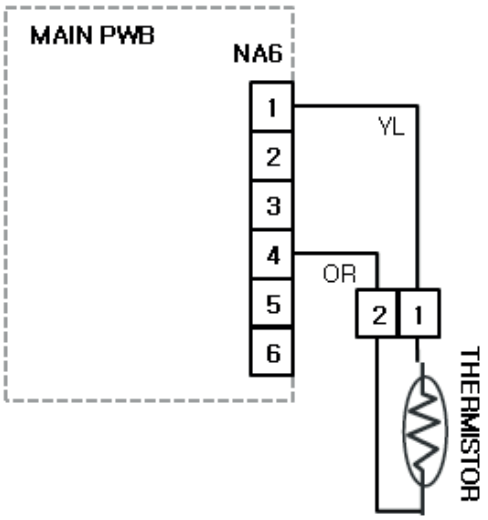
Symptom	Check Point
1. Not heating	1.Check Electric Wiring. 2.Check the motor operation. 3.Voltage of the Main PWB. 4. Check Heater element's Resistance.

<Electric Dryer>



Component	Picture	Test Point	Value
Main PWB Tab relay (B)④-YL3① Tab relay (W)④-YL3①		Measure volage of connector to connector ① Heating ② Stop	① Voltage value = 240Vac ② Voltage value = 0
Heater		Measure resistance of the following terminal ① Terminal: 1(COM) - 2 ② Terminal: 1(COM) - 3 ③ Terminal: 2-3	① Resistance value = 10Ω ② Resistance value = 10Ω ③ Resistance value = 20Ω
Thermostat(Hi-limit)		Measure resistance of terminal to terminal ① Open at 257 ± 9℉(125 ± 9℃) ② Auto reset - 31 ℉ (-35℃)	① Resistance value ≒ ∞ ② Resistance value < 5Ω
Thermostat(Safety)		Measure resistance of terminal to terminal ① Open at 284 ± 41℉(140 ± 5℃) ② Auto reset - 31 ℉ (-35℃)	① Resistance value ≒ ∞ ② Resistance value < 5Ω
Motor(Centrifugal Switch)		Measure resistance of the following terminal: 1 - 2	① Resistance value = 30mmΩ

<Electric Dryer>



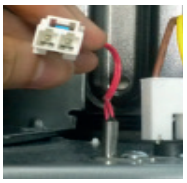
Component	Picture	Test Point	Value
Thermistor		Check if resistance is in the range of Table 1 when measuring resistance between terminals after separating harness from thermistor assembly connector.	Refer to Table 1

Table 1. Resistance for Thermistor Temperature.

Air TEMP. [°F(°C)]	RES. [KΩ]ab	Air TEMP. [°F(°C)]	RES. [KΩ]	Air TEMP. [°F(°C)]	RES. [KΩ]
50°F (10°C)	18.0	90°F (32°C)	7.7	130°F (54°C)	2.9
60°F (16°C)	14.2	100°F (38°C)	6.2	140°F (60°C)	3.0
80°F (21°C)	11.7	110°F (43°C)	5.2	150°F (66°C)	2.5
70°F (27°C)	9.3	120°F (49°C)	4.3	160°F (71°C)	2.2

Not heating (Electric)

Check lint Filter

Clean if needed. Explain to owner responsibility to keep lint filter clean for performance and safety reason.

No

Run dryer on a heat cycle for one minute.

If heat is felt, unit may have a vent problem, Investigate venting system. Is vent too long? Fully or partially clogged, etc?

Yes → Troubleshooting for inadequate airflow.

No

If heat is not felt, first test poer outlet.

Check with meter at L1 and L2 On out let.
Correct voltage = 208~240Vac ±10%

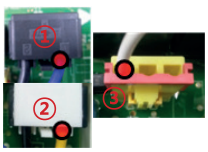
Is voltage of outlet within correct range?

※ 3-1 Connection with a Power Supply Cord Check

No → End-user must use correct outlet or have outlet repaired by electrician.

Yes

Check voltage of connector to connector (①~③. ②~③)
CAUTION: Potential for voltages over 200Vac. Proceed with care.
① Heating = 208~240Vac
② Stop = 0



No → Defective main PCB

Yes

Unplug UNIT / Check heater elements.
① Terminal: 1(COM) – 2 = 10Ω
② Terminal: 1(COM) – 3 = 10Ω
③ Terminal: 2 – 3 = 20Ω

No → One or both Heater elements defective.

Yes

Unplug UNIT / Test thermostats

Hi-limit
① Open at 257 ± 9˚F (125 ± 5℃)
② Close at 221 ± 9˚F (94 ± 7℃) 5

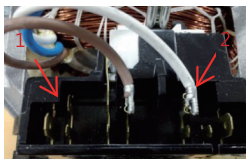
Safety
① Open at 284 ± 41˚F (140 ± 5℃) ≒ ∞
② Close at -31˚F (-35℃) < 5Ω

No → Defective Thermostat. If Safety thermostat Is open, replace Both after Determining what Caused thermostat to open

Yes

Unplug UNIT / Check centrifugal switch

Are motor readings normal?
① Resistance value = 30mm

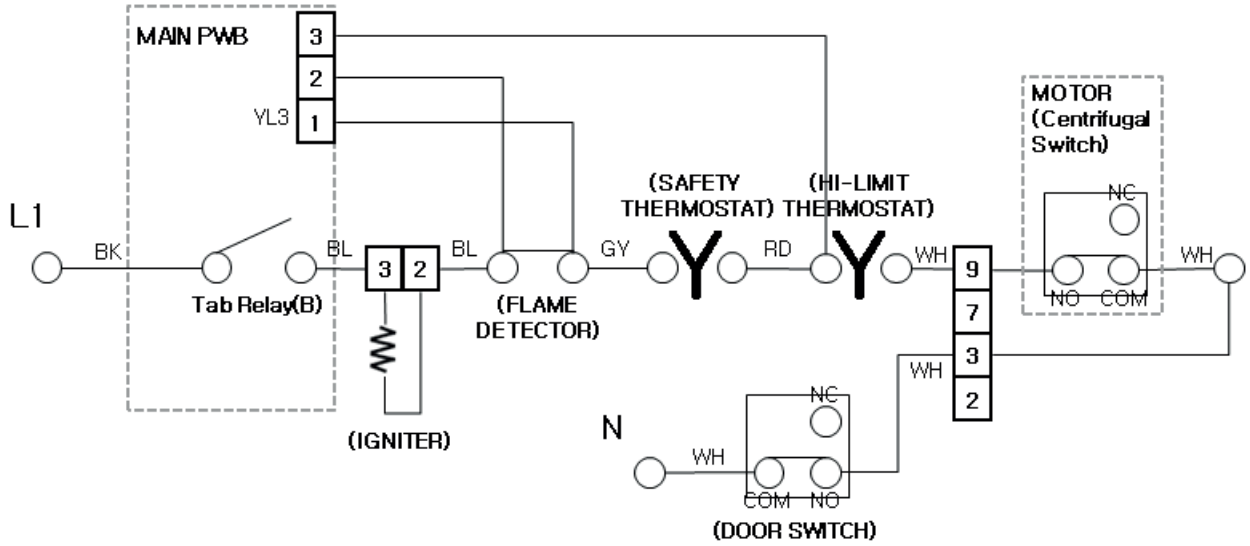


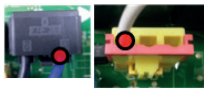
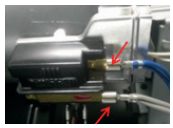
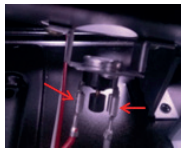
No → Defective Motor

Yes

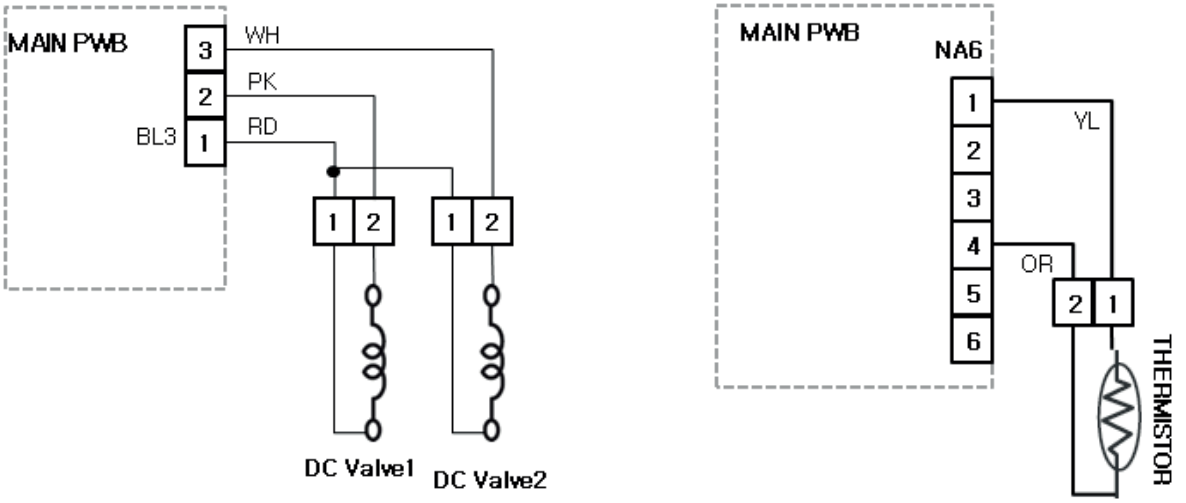
Retest heating circuit

<Gas Dryer>



Component	Picture	Test Point	Value
Main PWB Tab relay (B)④-YL3①		Measure volage of connector to connector ① Igniting ② Stop	① Voltage value = 120Vac ② Voltage value = 0
Igniter		Measure resistance of the following terminal	Resistance value = 50~800Ω
Flame Detector		Measure resistance of terminal to terminal ① Open at 370℉(188℃) [Maximum] ② Close at 320 ℉ (160℃)	① Resistance value ≒ ∞ ② Resistance value < 5Ω
Thermostat(Hi-limit)		Measure resistance of terminal to terminal ① Open at 203 ± 41℉(95 ± 5℃) ② Close at 158 ± 41℉ (70 ± 5℃)	① Resistance value ≒ ∞ ② Resistance value < 5Ω
Thermostat(Safety)		Measure resistance of the following terminal: ① Open at 230℉± 41℉(110 ± 5℃) ② Close - Manual reset	① Resistance value ≒ ∞ ② Resistance value < 1Ω
Door switch		Measure resistance of the following terminal: 1) Door switch knob: open ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2) 2) Door switch push: close ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2)	① Resistance value < 1Ω ② Resistance value ≒ ∞ ③ Resistance value ≒ ∞ ④ Resistance value < 1Ω

<Gas Dryer>



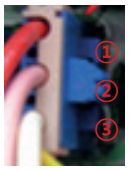
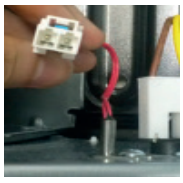
Component	Picture	Test Point	Value
Main PWB BL3①-BL3② BL3①-BL3③		Measure volage of connector to connector ① Valve On ② Valve Off	① Voltage value ≒ 90Vdc ② Voltage value ≒ 102Vdc
DC Valve1		Measure resistance of the following terminal ① Valve1 terminal	① Resistance value › 1.5Ω ~ 2.5kΩ
DC Valve2		Measure resistance of the following terminal ① Valve2 terminal	① Resistance value › 1.5Ω ~ 2.5kΩ
Thermistor		Check if resistance is in the range of Table 1 when measuring resistance between terminals after separating harness from thermistor assembly connector.	Refer to Table 1

Table 1. Resistance for Thermistor Temperature.

Air TEMP. [°F(°C)]	RES. [KΩ]ab	Air TEMP. [°F(°C)]	RES. [KΩ]	Air TEMP. [°F(°C)]	RES. [KΩ]
50°F (10°C)	18.0	90°F (32°C)	7.7	130°F (54°C)	2.9
60°F (16°C)	14.2	100°F (38°C)	6.2	140°F (60°C)	3.0
80°F (21°C)	11.7	110°F (43°C)	5.2	150°F (66°C)	2.5
70°F (27°C)	9.3	120°F (49°C)	4.3	160°F (71°C)	2.2

Not heating (Gas)

Check lint Filter Clean if needed.
Explain to owner responsibility to and safety reason.

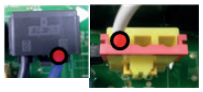
No

Run dryer on a heat cycle for one minute.
If heat is felt, unit may have a vent problem, Investigate venting system.
Is vent too long?
Fully or partially clogged, etc?

Yes → Troubleshooting for inadequate airflow.

No

Check voltage of connector to connector CAUTION: Potential for voltages over 100Vac. Proceed with care.
① Igniting = 120Vac ± 10%
② Stop = 0



No → Defective main PCB

Yes

Unplug UNIT / Check the gas valve nozzle clogged.

Yes → Remove foreign body.

No

Unplug UNIT / Check gas valve
① Valve1 terminal > 1.5kΩ~2.5kΩ
② Valve2 terminal > 1.5kΩ~2.5kΩ

No → Defective gas valve

Yes

Unplug UNIT / Check Igniter
Resistance value = 50~800Ω

No → Defective Igniter

Yes

Unplug UNIT /
① Open at 370˚F (Maximum) ≒ ∞
② Close at 320˚F < 1Ω

No → Defective Flame detector.

Yes

Unplug UNIT / Test thermostats
Hi-limit
① Open at 203 ± 41˚F (95 ± 5℃) ≒ ∞
② Close at 158 ± 41˚F (70 ± 5℃) < 5Ω
Safety
① Open at 230 ± 41˚F (110 ± 5℃) ≒ ∞
② Close – Manual reset

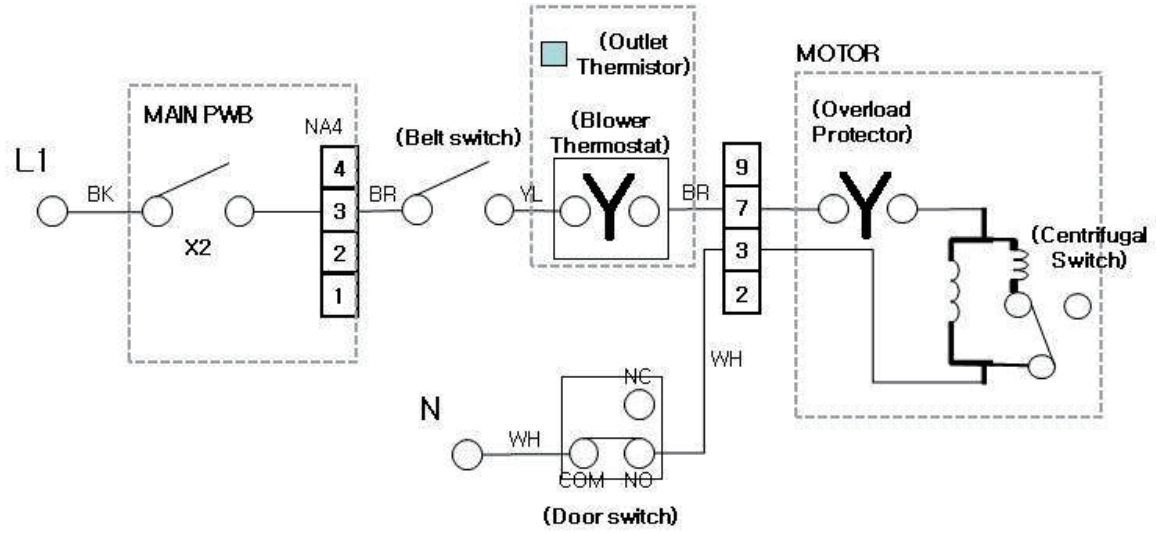
No → Defective Thermostat. If Safety thermostat Is open, replace Both after Determining what Caused thermo-stat to open

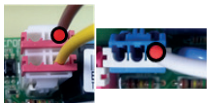
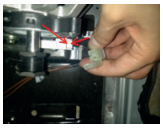
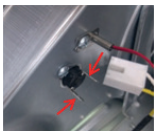
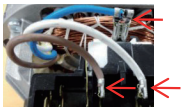
Yes

Retest heating circuit

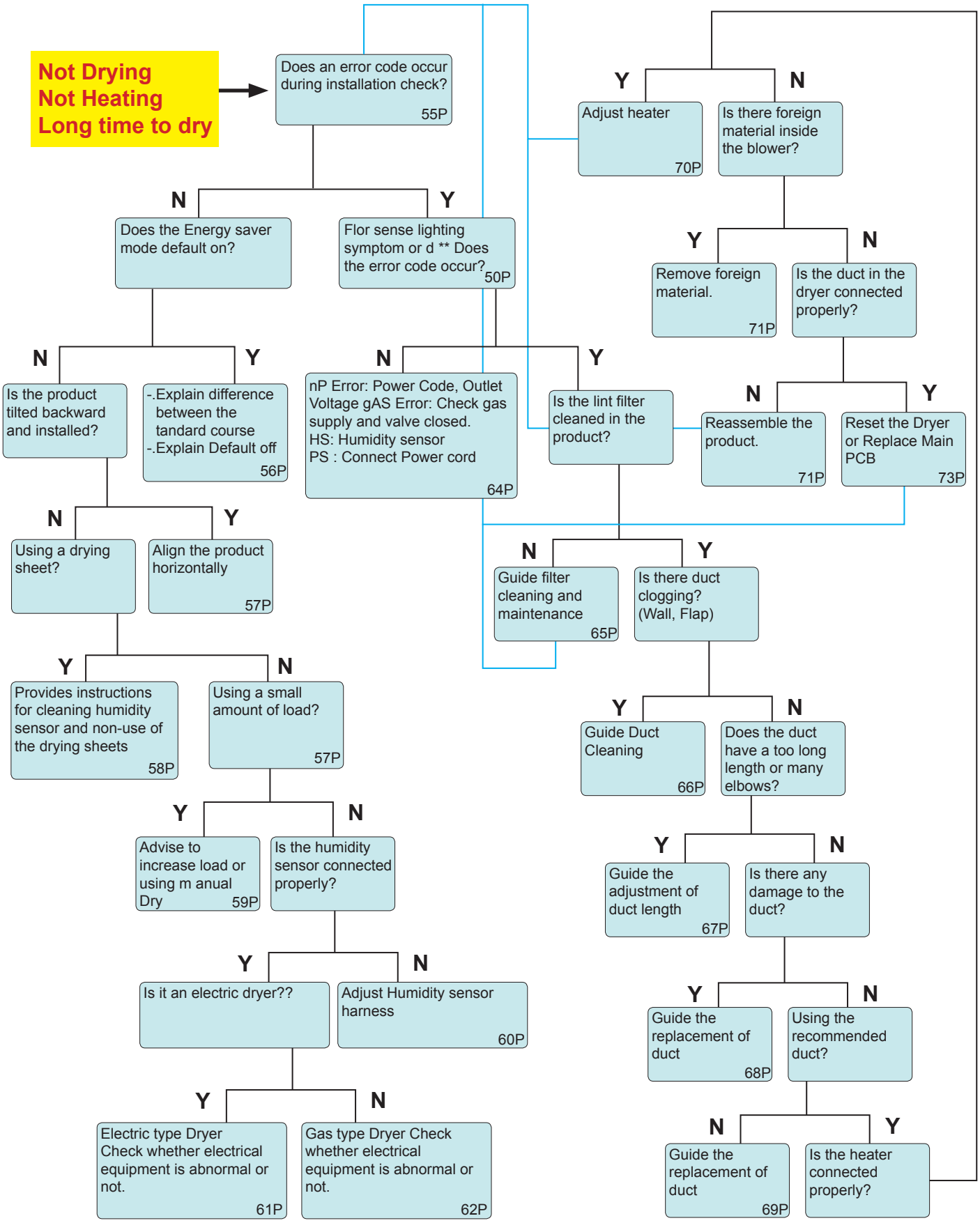
Symptom	Check Point
2. Not tumbling	1. Check Electric Wiring. 2. Check the Door properly closed. 3. Voltage of the Main PWB. 4. Check Blower thermostat's Resistance

<Electric / Gas Dryer>



Component	Picture	Test Point	Value
Main PWB (X2) NA4③-BL2①		Measure volage of connector to connector ① Tumbling ② Stop	① Voltage value = 120Vdc ② Voltage value = 0
Belt Switch		Measure resistance of the following terminal COM - NC	1. Lever open ① Resistance value › 1.5Ω ~ 2.5kΩ ② Resistancevalue ≒ ∞
Outlet Thermostat		Measure resistance of terminal to terminal ① Open at 185℃ ± 41℉ (85 ± 5 ℃) ② Close - Not recovery	① Resistance value ≒ ∞ ② Resistancevalue < 5Ω
Motor		Measure resistance of terminal to terminal ① Main-Common ② Sub-Common (Main-White, Sub-Brown, Common-Blue)	① Resistance value = 4.35Ω±5% (at 75℉) ② Resistance value = 3.37Ω±5% (at 75℉)
Door switch		Measure resistance of the following terminal 1) Door switch knob: open ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2) 2) Door switch push: close ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2)	① Resistance value < 1Ω ② Resistance value ≒ ∞ ③ Resistance value ≒ ∞ ④ Resistance value < 1Ω

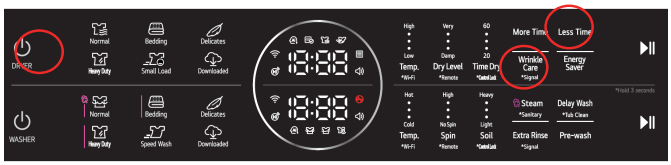
7-5. Troubleshooting Not Drying (Dryer)



Part 1. Does an error code occur during installation check

Note
The Dryer should be cool before starting this test.
Please run the AIR DRY cycle for a few minutes to reduce the interior temperature.

1. Way to Activate Installation test press ‘Power’ at first and touch ‘Less Time’ + ‘Wrinkle Care’



This button sequence activates the installation test.
The code InS will display if the activation is successful.

※ Some model indicate “Ins” and a usage count alternate in the display.
(the usage count the number of cycles run with no load during the last 5 cycles.
It indicates the possibility of using a small amount of load.)

Ex) 1 time operated with no load(Small load) during the last 5 cycles

2. Press the START/PAUSE button.
The dryer will start the test, which will last about 2 minutes.

※ The heater will be turned on and the temperatures in the drum will be measured and displayed on some model.
A chime sounds when the test portion of the cycle is complete.

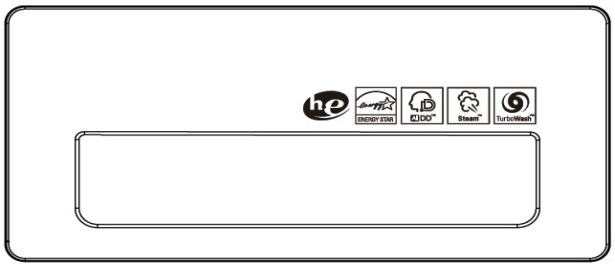
If temperatures is increased during Ins Check, It means the Heater is properly Operated.

3. Check the display for results. End

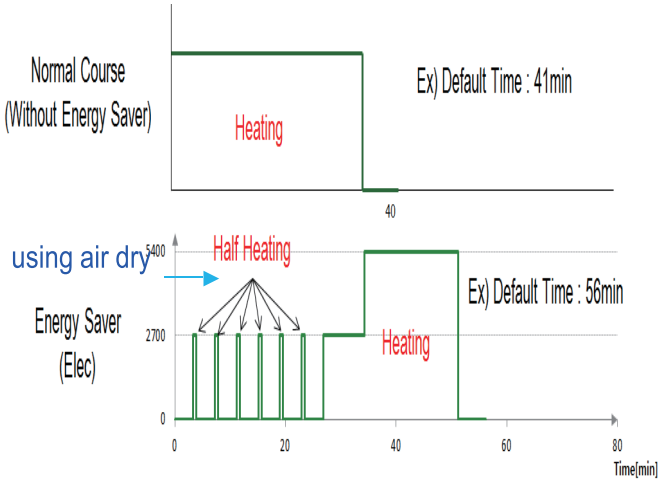
Error Code	Display	Product Type	Reason	
Flow Sense™ D**	d 80 Flow Sense	Ele.	When duct is clogged	Variance temperature of internal Drum : 20℃ ↓
		Gas		Variance temperature of internal Drum : 15℃ ↓
nP	nP	Ele.	Signal not sensing due to Thermostat off or temperature of Thermistor is maintained(47℃↓) or not enough power.	
PS	PS	Ele.	High voltage	
HS	HS	All	Electronic Sensing 220↓	
tE1 / tE2	tE1	All	Thermostat Off	

Part 2. Does the energy saver default on?

Note
In case of Energy Star model, When customer select Cotton / Normal cycle, “Energy Saver” option will be selected automatically.
(default option)
“Energy Saver” course can save energy by using air dry, but Drying time is long than normal cycle.



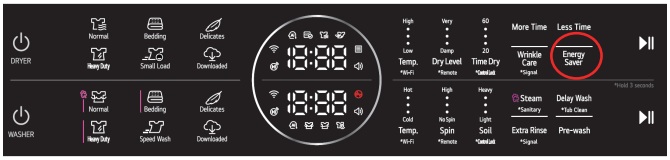
Ex) What is Energy Saver option?
- For a normal course without ‘Energy saver’ option, operate the heater to the set temperature and maintain that temperature.
  If use Energy Saver, there is an air dry section that does not use a heater in the middle of the cycle. It takes time, but consumes 15% less energy and dries to the same state.



1. How to default off ‘Energy saver’?

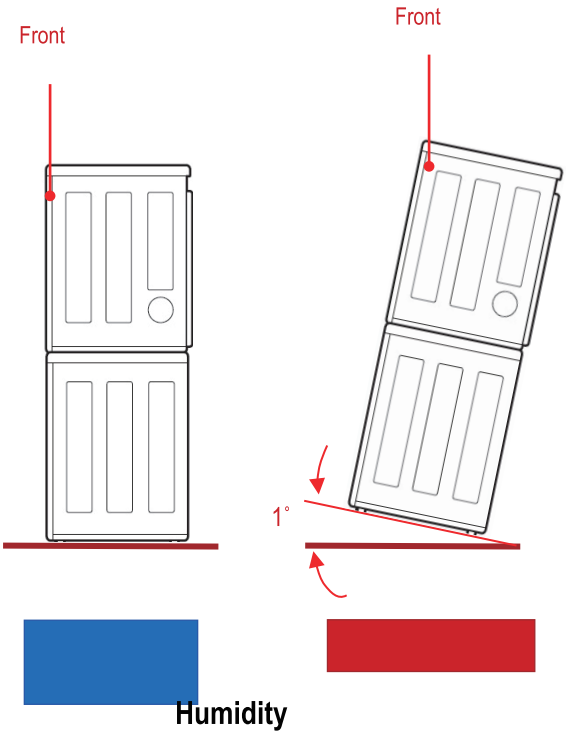
Energy Saver

If it has ‘Default On/Off’ on Energy Saver Button
→ Press the Energy Saver button and Hold for 3 sec.

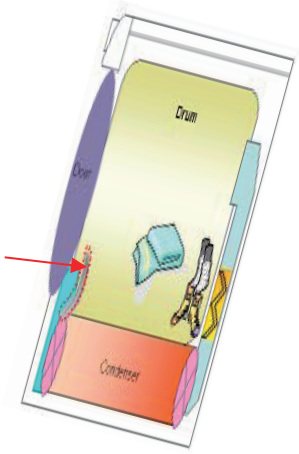


Part 3. Is the product tilted backward and installed?

Note
The unit must be leveled for proper drying. This is to allow for proper air flow.
Also, if the unit is not level, the clothing will not come in contact with the sensors at the front inside of the drum to tell the unit that it needs to continue drying, **which can cause the unit to shut off too early,** assuming the load is dried.

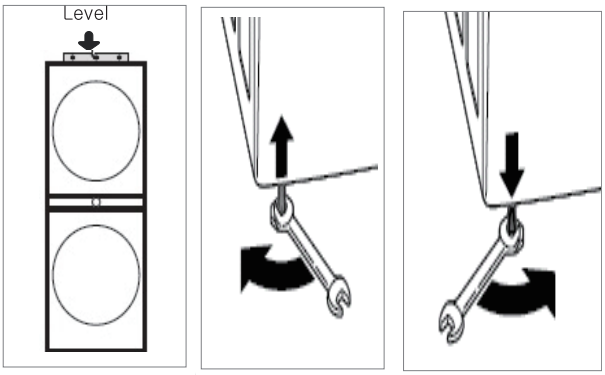


Humidity Sensor



1. How to level the Laundary Center?

Use hand or an adjustable wrench to turn the leveling feet. Turn clockwise to raise the Laundary Center or counterclockwise to lower it. Raise or lower the leveling feet until dryer is level from side to side and front to back.

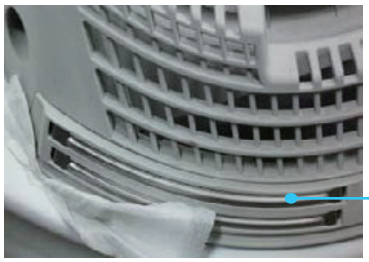


Part 4. Using a drying sheet?

Note

It is not recommended to use dryer sheets (fabric softener sheets) in LG dryers. This is because the chemicals in the sheets can collect on the humidity sensors inside the drum, preventing proper humidity sensing. This can cause the unit to shut off before load is dry.

It can also block air flow and cover the sensors.



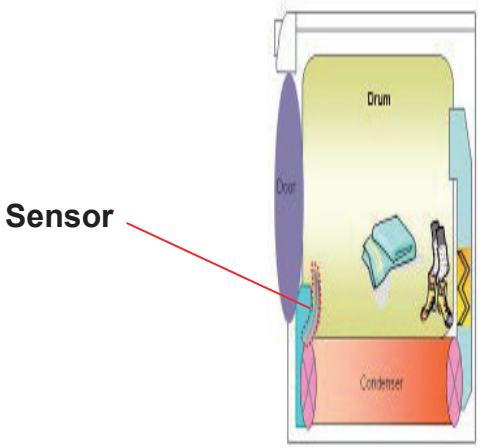
Humidity sensors

Drying sheet prevent the circulation of air in dryer and make abnormal noise.

Part 5. Using a small amount of load?

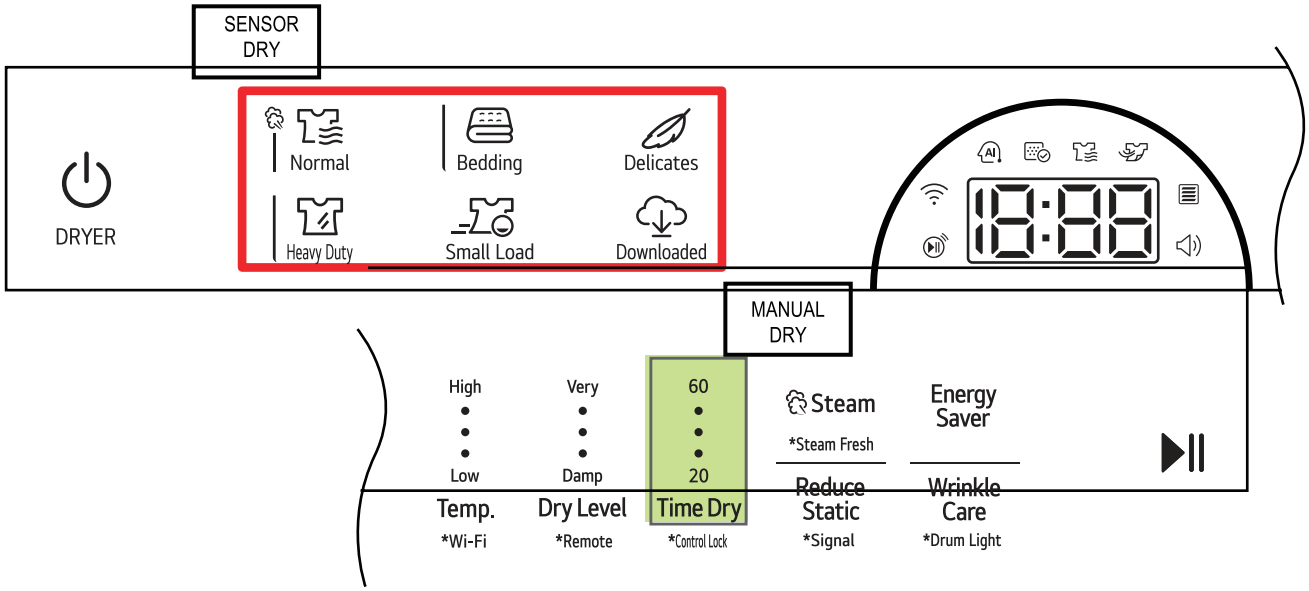
Note

Small load sizes will sometimes not dry completely prior to the dryer shutting off. This is because the items in the drum do not brush up against the sensors that are located at the front of the drum, for the unit to properly detect humidity levels in the machine.
Adding a few items or using Speed Dry or Time Dry may help.



Ex) Manual Dry (Time) Dry

Use **manual dry cycles to select a specific amount of drying time and a drying** temperature. When a manual dry cycle is selected, the estimated Time, remaining display shows the actual time remaining in your cycle. You can change the actual time in the cycle by pressing More Time or Less Time Button.



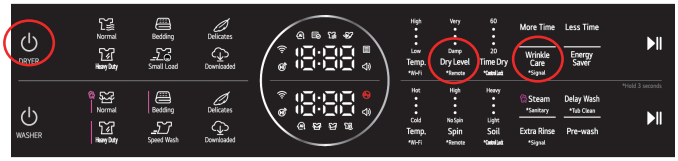
Part 6. Is the humidity sensor connected properly?

FUNCTIONAL TEST (Control)

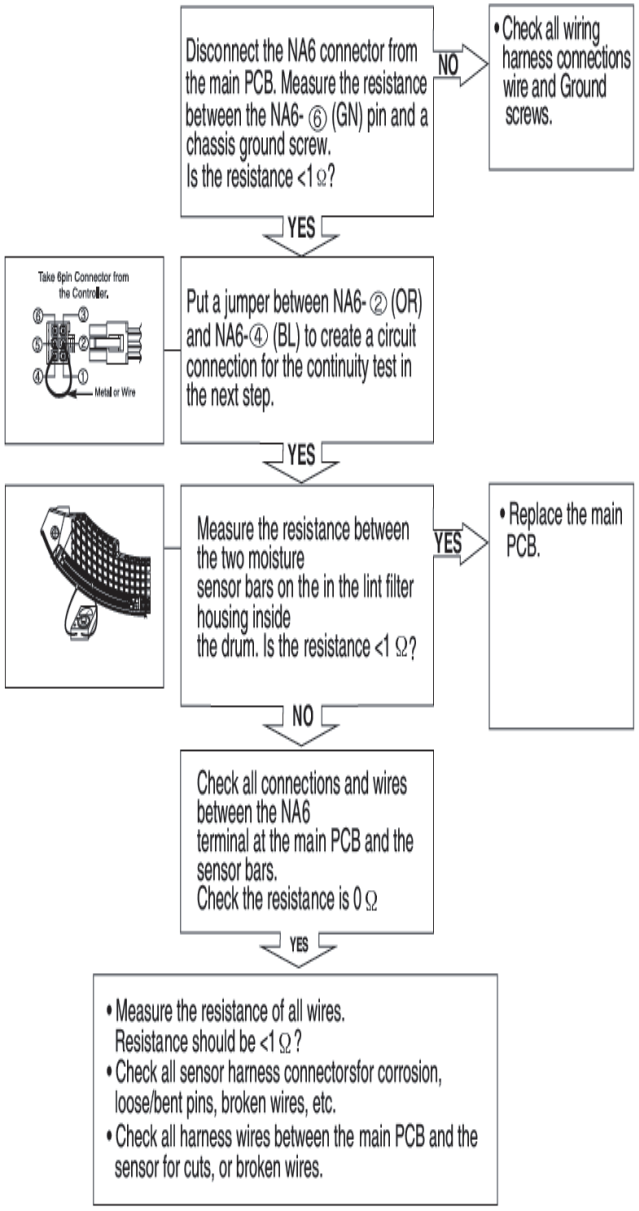
1. Enter the diagnostic mode. (See DIAGNOSTIC TEST MODE.)

■ Activating the diagnostic test

1) Unit must in standby(plugged in, display off)
2) Touch 'Power' and 'Dry Level' + 'Reduce Static' within one half second.
3) Press Start/Pause button to advance through diagnostics.

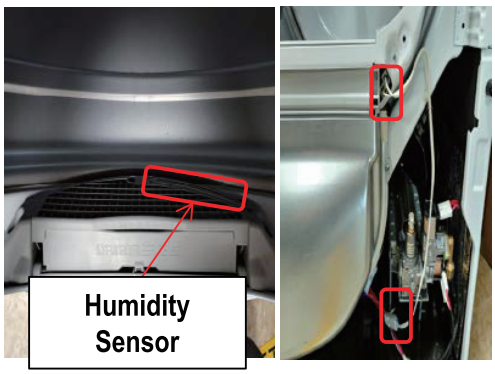


2. With the door closed, press the START/PAUSE button once. The dryer will start tumbling without heat.
3. Open the door. The drum will stop tumbling and the "dE" error code will be displayed and the chime will sound several times (if turned on).
4. With one hand, reach into the drum and place your fingers across the moisture sensor bars. (CAUTION: The dryer drum will turn in this test. Your hand will be close to the rotating drum vanes. Keep your hand close to the filter housing to avoid being hit by the moving vanes.)
5. Use your other hand to press the door switch. The dryer drum will start rotating automatically.
6. Observe the numerical display. Depending on conditions, the number displayed should be between 30 and 255. The numbers should start decreasing as the control senses the moisture in your skin.
7. After you have observed the number decreasing, remove your fingers from the sensor bars. The numbers will continue to decrease for a few seconds (minimum 30) and the begin to increase (maximum 255).
8. If this test fails, proceed with the MECHANICAL TEST below.



Note

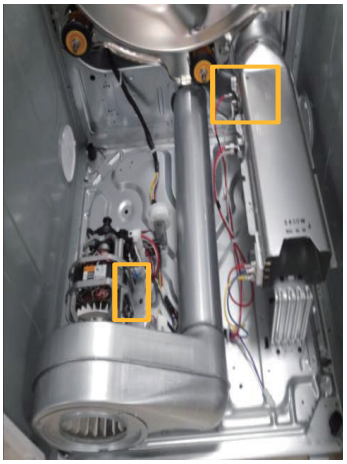
If humidity sensor harness connection is bad, or sensor is dirty, humidity value can not be read. Clean the humidity sensor with a clean cloth and adjust the harness connection.

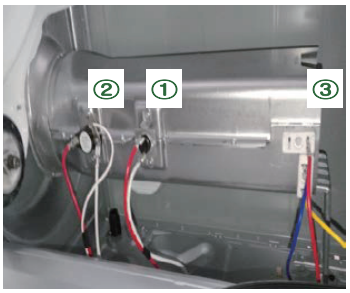


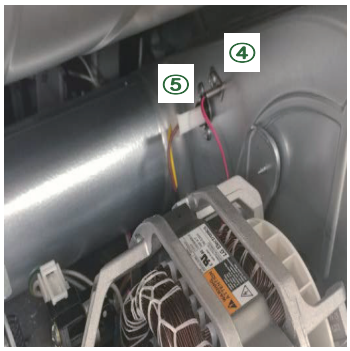
Part 7. Check whether electrical equipment is abnormal or not.(Electric Dryer)

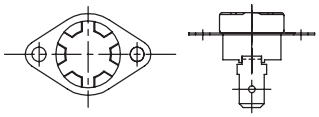
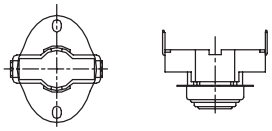
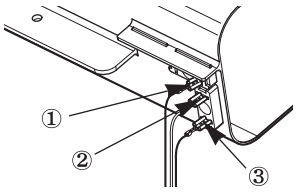
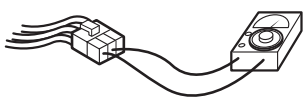
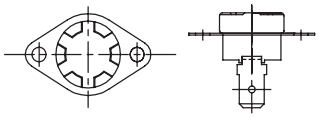
Note

Please check if all the c ompon e nts are working pro perl y.





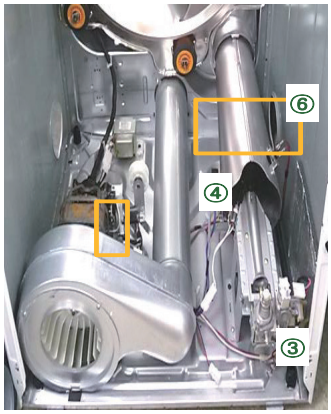


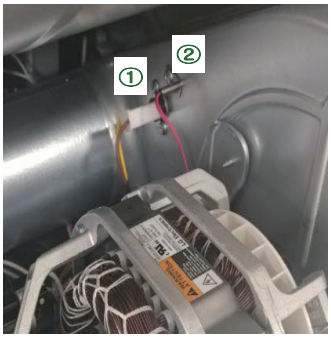
Component	Test Procedure	Check result	Remark
1. Thermal cut off  Check Top Marking: N140	Measure resistance of terminal to terminal ① Open at 284 ± 9˚F (140 ± 5˚C) ② Auto reset -31˚F (-35˚C) Same shape as outlet thermostat.	If thermal fuse is open must be replace ① Resistance value ≒ ∞ ② Continuity (250˚F ↓) < 1Ω	• Heater case-Safety • Electric type
2. Hi limit Thermostat (Auto reset) 	Measure resistance of terminal to terminal ① Open at 257 ± 9˚F (125 ± 5˚C) ② Close at 201 ± 9˚F (94 ± 7˚C)	① Resistance value ≒ ∞ ② Resistance value < 5Ω	• Heater case-Hi limit • Electric type
3. Heater 	Measure resistance of the following terminal ① Terminal: 1 (COM) - 2 ② Terminal: 1 (COM) - 3 ③ Terminal: 2 - 3	① Resistance value: 10Ω ② Resistance value: 10Ω ③ Resistance value: 20Ω	• Electric type
4. Thermistor 	Measure resistance of terminal to terminal Temperature condition: 58˚F ~ 104˚F (10~40˚C)	Resistance value: 10Ω	• Heater case Hi limit • Electric type
5. Outlet Thermostat (Cut off)  Check Top Marking: N85	Measure resistance of terminal to terminal ① Open at 185 ± 9˚F (85 ± 5˚C) Same shape as thermal cut off.	① Resistance value ≒ ∞ ② Resistance value < 5Ω	• Blower housing - Safety

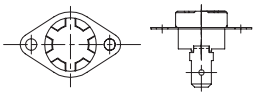
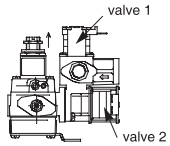
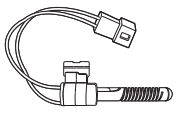
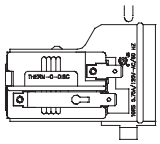
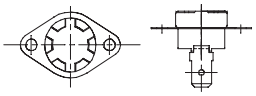
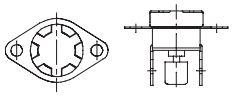
Part 8. Check whether electrical equipment is abnormal or not.(Gas dryer)

Note

Please check if all the components are working properly.





Component	Test Procedure	Check result	Remark
1. Outlet Thermostat (Cut off)  Check Top Marking: N85	Measure resistance of terminal to terminal ① Open at 185 ± 9˚F (85 ± 5˚C) Same shape as thermal cut off.	① Resistance value ≒ ∞ ② Resistance value < 5Ω	• Blower housing - Safety
2. Thermistor 	Measure resistance of terminal to terminal Temperature condition: 58˚F ~ 104˚F (10~40˚C)	Resistance value: 10Ω	• Heater case Hi limit • Electric type
3. Gas Valve 	Measure resistance of the following terminal ① Valve 1 terminal ② Valve 2 terminal	① Resistance value 1.5k~2.5kΩ ② Resistance value 1.5k~2.5kΩ	• Gas type
4. Igniter 5318EL3001 	Measure resistance from terminal to terminal.	Resistance value 50~800Ω (for 5318EL3001)	• Gas type
5. Flame Detect 	Measure resistance of terminal to terminal ① Open at 370˚F (Maximum) ② Close at 320˚F	① Resistance value ≒ ∞ ② Resistance value < 1Ω	• Gas type
6. Outlet Thermostat (Auto reset)  Check Top Marking: N95	Measure resistance of terminal to terminal ① Open at 203 ± 41˚F (95 ± 5˚C) ② Close at 159 ± 41˚F (70 ± 5˚C)	① Resistance value ≒ ∞ ② Continuity < 1Ω	• Gas type • Gas funnel
7. Outlet Thermostat (Manual reset)  Check Top Marking: N100	Measure resistance of terminal to terminal ① Open at 230 ± 41˚F (110 ± 5˚C) ② Manual reset	① Resistance value ≒ ∞ ② Continuity < 1Ω	• Gas type • Gas funnel

Part 9. Flow sense lighting symptom or d ** Does the error code occur?

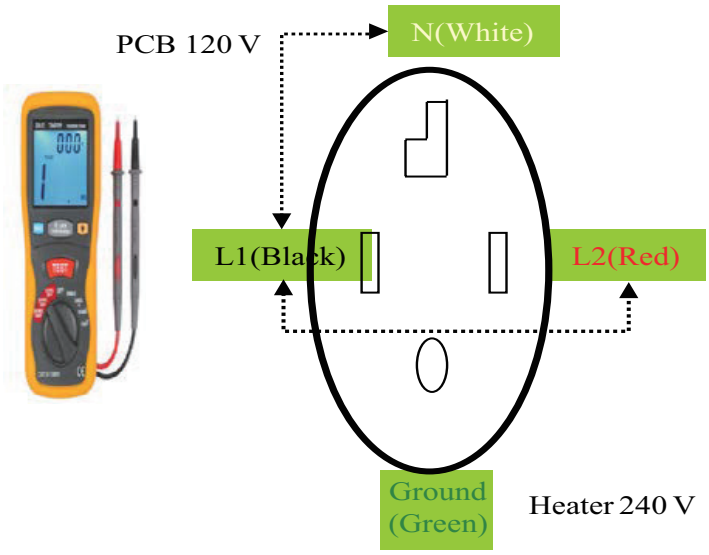
Note
During the test cycle, monitor the Flow Sense™ display on the control panel. If no bars are displayed, when the cycle ends, the exhaust system is adequate. If the exhaust system is severely restricted, the display will show four bars.

NO BARS:
OK

FOUR BARS:
RESTRICTED

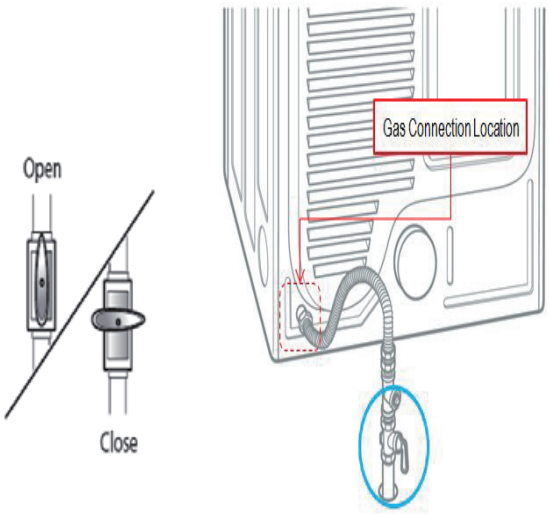
Part 10. How to TS Error Code

1. **nP Error** **(Only Elec type D ryer)**
Not enough voltage from outlet (Lower than 240V)
-. Problem with the outlet wiring on the wall
-. Improper voltage from the outlet



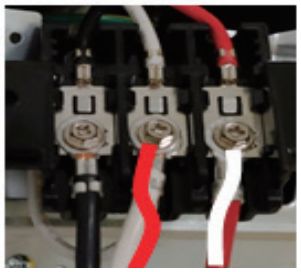
please recommend to customer that home outlet and circuit breaker need to be check by a licensed electrician.
→ If there is no problem with the power supply, It is possible to problem is with a thermostat malfunction

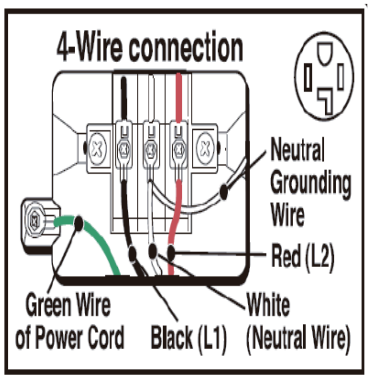
2. **gAS Error (9AS,9A5)** (Only Gas type Dryer) When gas is not supplied to the dryer
-. When gas valve is closed.
-. If gas line is not connected to the dryer.
-. When gas is not supplied



3. **PS Error** **(Only Elec type D ryer)**
When Supplied 240V with PCB, LED displays “PS” and then power off to protect Main PCB.
-. The message display when the power cord is improperly wired (high voltage)

Wrong Case Correct Case





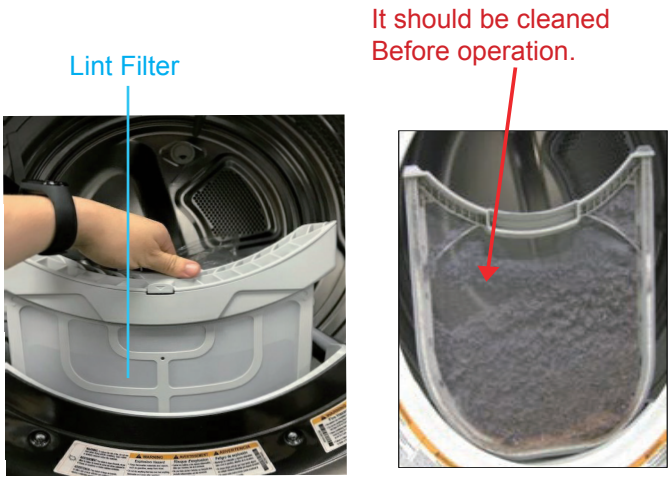
Power cord mis-C onnected
-. Power supplies 240V with PCB & Motor

4. HS Error (Humidity Sensor)
Humidity Sensor failure. Refer to 57p

Part 11. Is the lint filter cleaned in the product?

Note

The lint filter should be cleaned after every load.
If not, accumulation of lint on this filter will result in restricted air flow, which will increase dry times. In some instances, dry time can be increased dramatically. The Check Filter Light will come on before every cycle as a reminder to clean the lint filter for optimum performance.

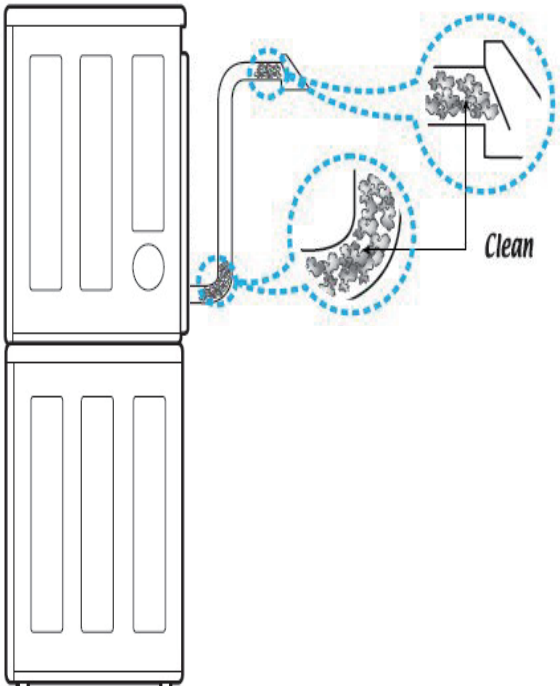


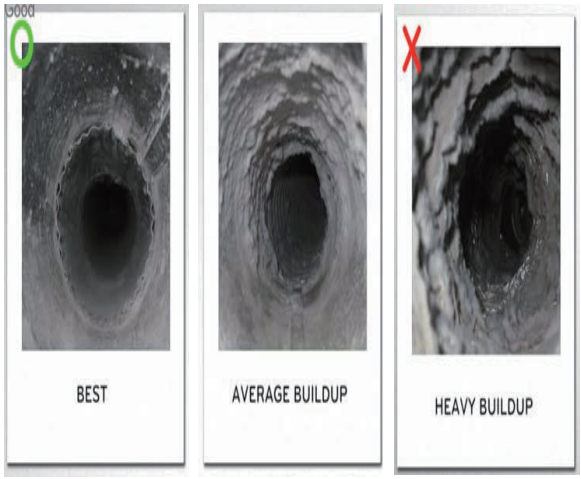
Clean Lint Filter and Guide Asm

Part 12. Is there duct clogging? (Wall, Flap)

Note
If the venting is kinked or clogged, this will reduce air flow and increase dry times (or d** Error showed up). Check for kinks, tears or clogs in vents. If kinked, straighten out the duct. If torn, replace. If clogged, clean out or replace if necessary.

a. Vent Clogged (Home vent, include inside the wall)





To clean the vent, We recommend customers to clean their vent once a year at least.

b. Vent Hood Clogged (Exterior Home)

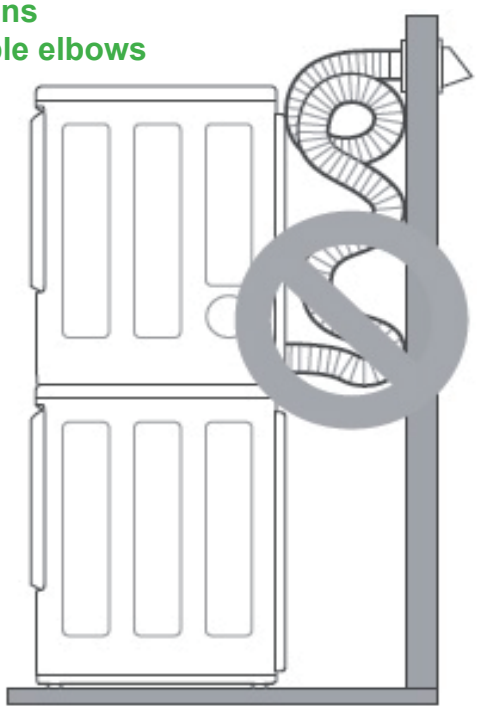
DO NOT USE or INSTALL screen on the end of air duct.
It may get covered up by lint and this can lead to blocking of vent. It may result into weak drying, long drying time or No drying at all.

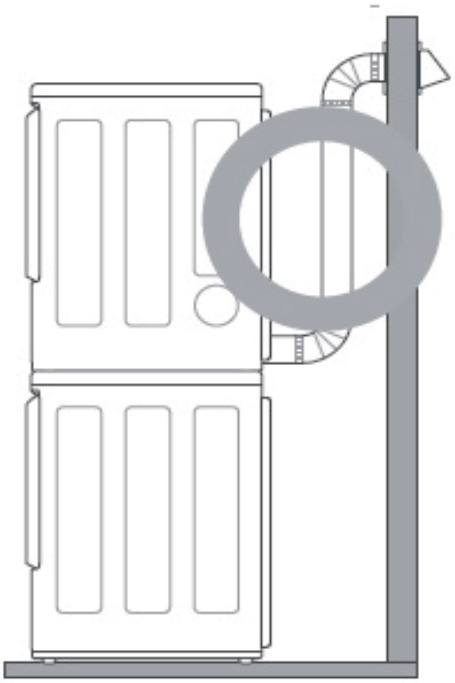
※ If you are expecting a problem with the vent rather than the product, please refer customer to a propessional ductwork company.

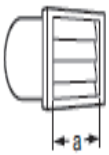
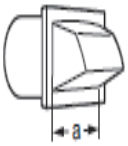
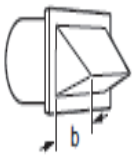
Part 13. Does the duct have a too long length or many elbows?

Note
If the dryer' back side is too close to the wall and too long Vent / lots of elbows, there may be a Vent kinked or breakage.

Avoid long runs of ducts or runs with multiple elbows or bends.





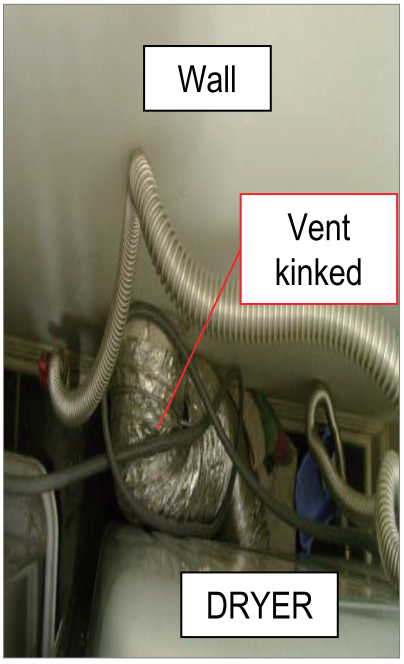
Wall Cap Type	Number of 90˚ Elbows	Maximum length of 40inch diameter rigdid metal duct
Recommended   a:4"(10.2 cm)	0	65 ft. (19.8m)
	1	55 ft. (16.8m)
	2	47 ft. (14.3m)
	3	36 ft. (11.0m)
	4	28 ft. (8.5m)
Use only for short run installations  a:2.5"(6.35 cm)	0	55 ft. (16.8m)
	1	47 ft. (14.3m)
	2	41 ft. (12.5m)
	3	30 ft. (9.1m)
	4	22 ft. (6.7m)

Part 14. Is there any damage to the duct?

Note
If Vent kinked or broken, air flow is restricted and dryer can't dry clothes

→ Call the propessional ductwork company.

a. Vent Kinked

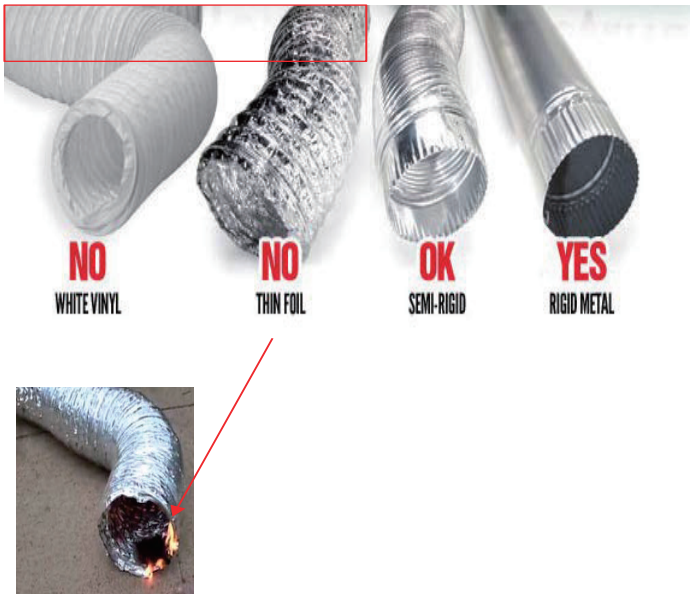


b. Vent Breakage

※ Do not push the dryer back after installation.
It cause vent kinked and breakage.

Part 15. Using the recommended duct?

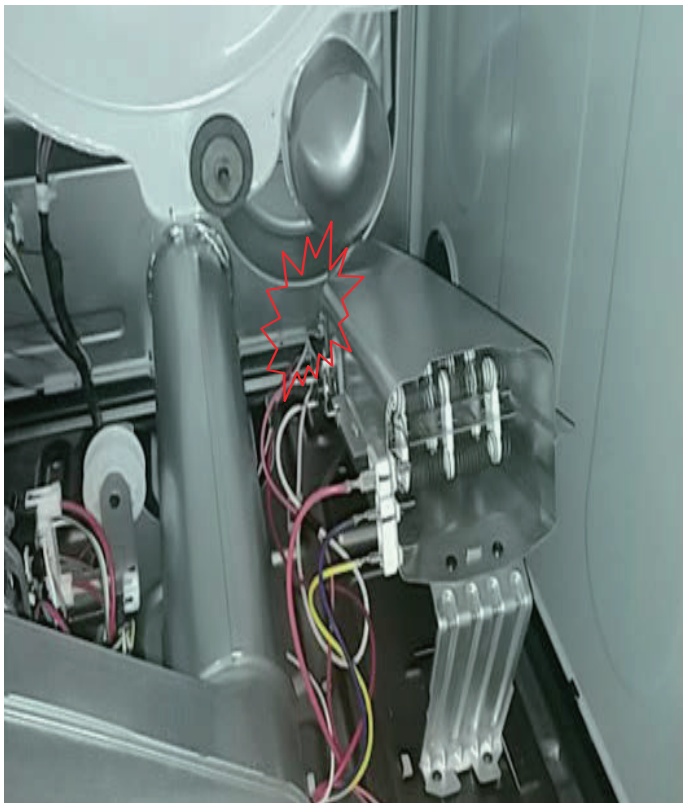
Note
Use only 4-inch (10.2 cm) rigid, semi-rigid or flexible metal ductwork inside the dryer cabinet and for venting outside

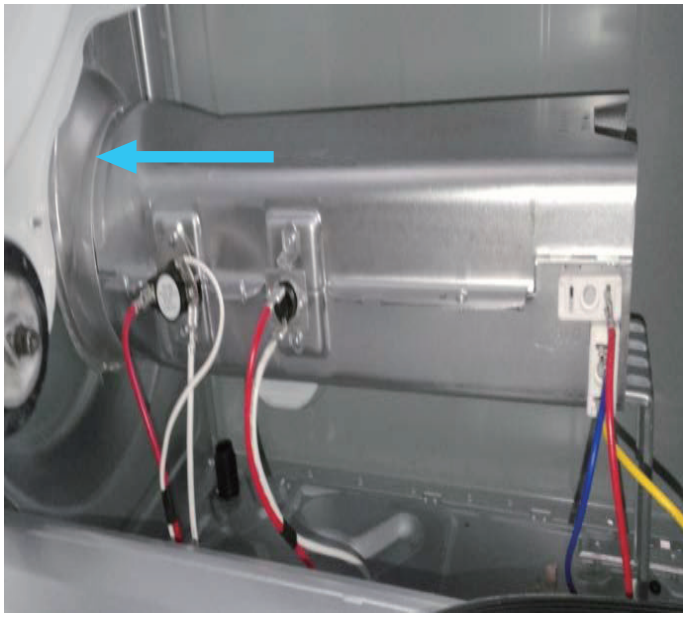


Part 16. Is the heater connected properly?

Note
The heater may be detached due to impact during installation / delivery.

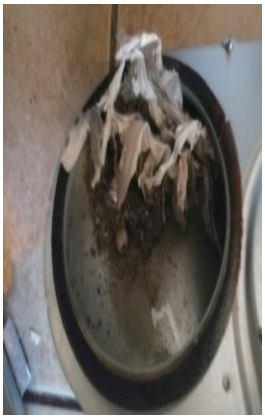
Reassemble the heater into the Tub Rear





Part 17. Is there foreign material inside the blower?

Note
If do not clean the filter frequently, or if operate the dryer with the filter not assembled, foreign matter can get into the blower.



Clean the blower Asm and tub front.

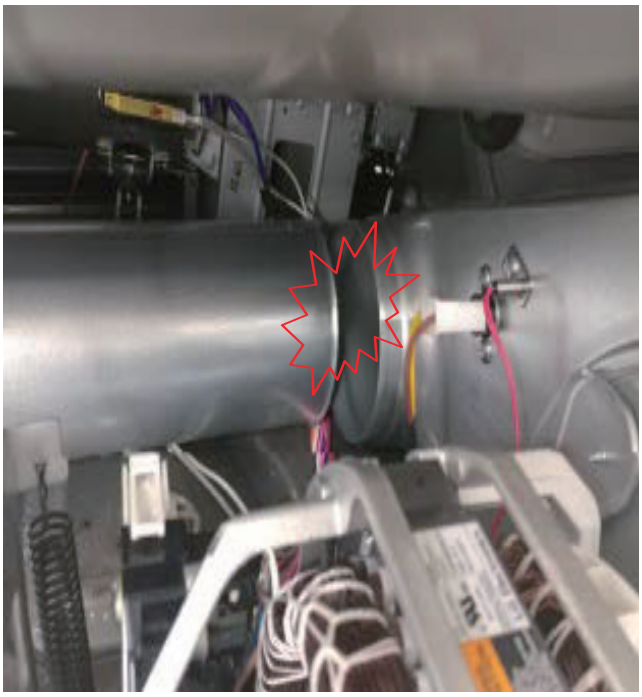
If necessary, clean the lint filter and guide assembly together.

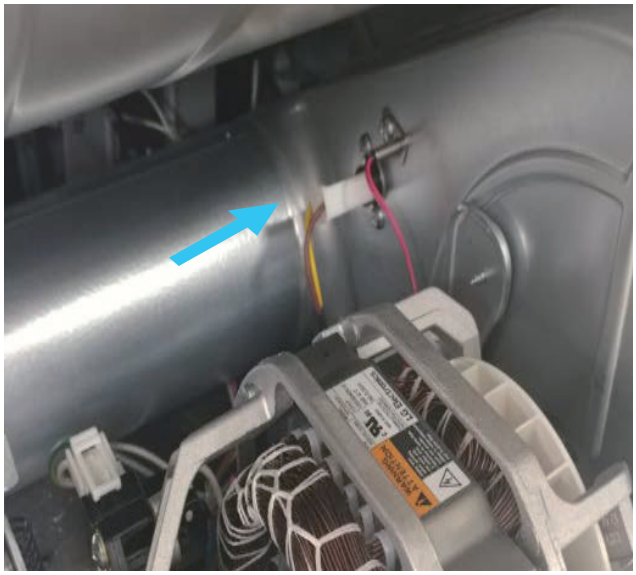
Part 18. Is the duct in the dryer connected properly?

Note

The Duct inside of thd dryer may be detached due to impact during installation / delivery.

Reassemble the duct into the blower asm.





Part 19. Reset the Dryer or Replace Main PCB

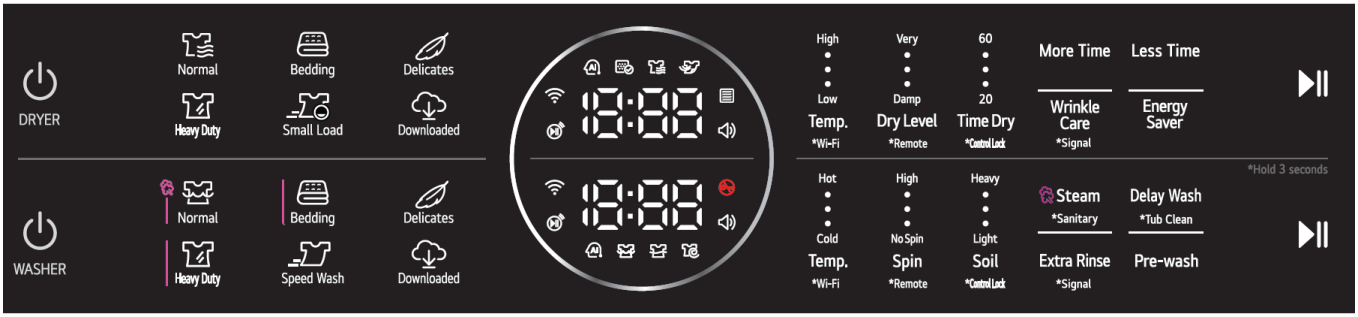
Note
If there are no problem with the dryer and even environment, but d80 error still showed up, please reset the dryer and try to default off ‘d80 error’
(If you need please replace Main PCB)

If necessary default off ‘d80 error’ (Some model Support)

① Press ‘Wrinkle Care’, ‘Energy Saver’ and dryer display off.

② Then the algorithm is off.

③ d80 error doesn’t display anymore during operation.
(But it can be shown in installation test)



But Customer need to clean exhaust duct by professional cleaning company.

7-6. Troubleshooting for flow sensor dryer

• Check the Error Code before you call for service

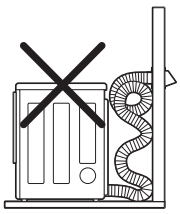
Error Code	Possible Causes	Solutions
tE1 *or* **tE2**	• Temperature sensor failure	• Turn off the dryer and call for service.
HS	• Humidity Sensor failure.	• Turn off the dryer and call for service.
PS *or* **PF** *or* **nP**	• Electric dryer power cord is not connected correctly, or house power supply is incorrect. • House fuse is blown, circuit breaker has tripped, or power outage has occurred.	• Check the power supply or the connection of power cord to the terminal block. Refer to the **Connecting electric dryers** section of this manual for complete instructions. • Reset circuit breaker or replace fuse. Do not increase the fuse capacity. If the problem is a circuit overload, have it corrected by a qualified electrician.
The display shows "d90", "d95" 	• The duct work is about 75%, 80%, 90%-95% blocked.("d75", "d80", "d90" or "d95" error code displayed 2hours only)	• **Do not use the dryer until the exhaust system has been cleaned and/or repaired.** Using the dryer with a severely restricted exhaust is dangerous and could result in a fire or other property damage. • Check the outside dryer vent while the dryer is operating to make sure there is strong airflow. • If ther exhaust system is extremely long, have it repaired or rerouted. • Keep the area around the dryer clean and free of clutter. • Check the vent hood for damage or lint clogging. • Make sure the area around the vent hood is clear.
FLOW SENSE™ indicator shows four bars during the drying cycle or the display shows "d80" after drying.	• Ductwork is too long or has too many turns/restrictions. • Significant blockage of the ductwork due to lint buildup or debris. • The appliance has detected a restriction in the external dryer venting.	• Install a shorter or straighter duct run. See the Instructions. • Ductwork should be checked/cleaned soon. Dryer can be used in this condition, but drying times may be longer. • If exhaust restrictions are sensed by the FLOW SENSE™ system, the indicator will remain on for two hours after the end of the cycle. Opening the door or pressing the POWER button will turn off the display.

• Check the duct condition

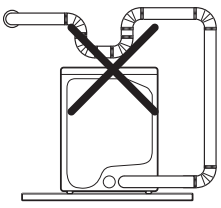
If the FLOW SENSE™ LED is turned on, check the exhaust system for restrictions and damage. Repair or replace the exhaust system as needed.

Restricted or Blocked Airflow

Avoid long runs or runs with multiple elbows or bends.

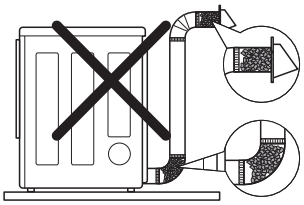


Excess or crushed transition duct



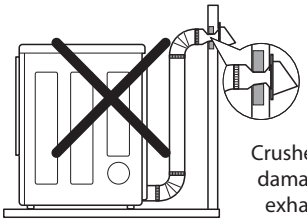
Too many elbows or exhaust too long

Check for blockages and lint buildup.



Lint buildup or blockage

Make sure the ductwork is not crushed or restricted.



Crushed or damaged exhaust

7-7. Before using the Tag On function

Using LG ThinQ Application

The **LG ThinQ** application allows you to communicate with the appliance using a smartphone.

LG ThinQ Application Features

- **Remote Start**
  - It allows you to control the appliance remotely from the **LG ThinQ** application.
- **Downloaded**
  - It allows you to download new and specialized cycles that are not included in the standard cycles on the appliance.
- **Tub Clean Coach (Washer)**
  - This function shows how many cycles remain before it is time to run the **Tub Clean** cycle.
- **Venting Tips (Dryer)**
  - Provides venting tips.
- **Energy Monitoring**
  - This feature keeps track of the washer's power consumption affected by selected washing cycles and options.
- **Smart Diagnosis**^{TM}
  - This function provides useful information for diagnosing and solving issues with the appliance based on the pattern of use.
- **Push Alerts**
  - When the cycle is complete or the appliance has problems, you will receive a push message.
- **Settings**
  - Allows you to set various options on the appliance and in the application.

NOTE

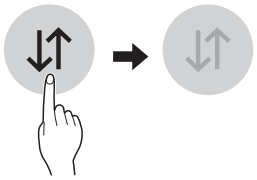
- If you change your wireless router, Internet service provider, or password, delete the connected appliance from the **LG ThinQ** application and connect it again.
- This information is current at the time of publication. The application is subject to change for product improvement purposes without notice to users.

Before Using LG ThinQ Application

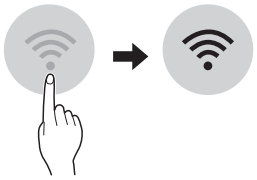
1 Check the distance between the appliance and the wireless router (Wi-Fi network).

- If the appliance is too far from the router, the signal strength becomes weak. It may take a long time to connect or installation may fail.

2 Turn off the **Mobile data** or **Cellular Data** on your smartphone.



3 Connect your smartphone to the wireless router.



NOTE

- To verify the Wi-Fi connection, check that the icon on the control panel is lit.
- The appliance supports 2.4 GHz Wi-Fi networks only. To check your network frequency, contact your Internet service provider or refer to your wireless router manual.
- **LG ThinQ** is not responsible for any network connection problems or any faults, malfunctions, or errors caused by network connection.
- If the appliance is having trouble connecting to the Wi-Fi network, it may be too far from the router. Purchase a Wi-Fi repeater (range extender) to improve the Wi-Fi signal strength.
- The Wi-Fi connection may not connect or may be interrupted because of the home network environment.
- The network connection may not work properly depending on the Internet service provider.
- The surrounding wireless environment can make the wireless network service run slowly.

NOTE

- If the appliance cannot be registered due to problems with the wireless signal transmission, unplug the appliance and wait about a minute before trying again.
- If the firewall on your wireless router is enabled, disable the firewall or add an exception to it.
- The wireless network name (SSID) should be a combination of English letters and numbers. (Do not use special characters.)
- Smartphone user interface (UI) may vary depending on the mobile operating system (OS) and the manufacturer.
- If the security protocol of the router is set to **WEP**, network setup may fail. Change the security protocol (**WPA2** is recommended) and connect the product again.

Installing the LG ThinQ Application

Search for the **LG ThinQ** application from the Google Play Store or Apple App Store on a smartphone. Follow instructions to download and install the application.

Using the Washer/Dryer Remotely

Remote Start

Use a smartphone to control your appliance remotely. You can also monitor your cycle operation so you know how much time is left in the cycle.

Using Remote Start

1. Load the laundry.
2. Press the **Power** button.
3. Press and hold the **Remote** button for 3 seconds to enable the remote control function.
4. Start a cycle from the **LG ThinQ** application on your smartphone.

NOTE

- Once this function is enabled, you can only start a cycle from the **LG ThinQ** smartphone application. If the cycle is not started, the appliance will wait to start the cycle until it is turned off remotely from the application or this function is disabled.
- If the door has been opened, you cannot start a cycle remotely.

Disabling Remote Start Manually

When the function is activated, press and hold the **Remote** button for 3 seconds.

Download Cycle

You can download new and specialized cycles that are not included in the standard cycles on the appliance.

Appliances that have been successfully connected can download a variety of specialty cycles specific to the appliance.

Once cycle download is completed in the appliance, the product keeps the downloaded cycle until a new cycle is downloaded.

NOTE

- Only one downloaded cycle can be stored on the appliance at a time.

Wireless LAN Module Specifications

Model	LCW-004
Frequency Range	2412 - 2462 MHz
Output Power (Max)	< 30 dBm

FCC Notice

The following notice covers the transmitter module contained in this product.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the

equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with a minimum distance of 20 cm (7.8 inches) between the antenna and your body. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Industry Canada Statement

This device contains licence-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

IC Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 cm (7.8 inches) between the antenna and your body.

NOTE

- THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Open Source Software Notice Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit **http://opensource.lge.com**. In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to **opensource lge.co m**. This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

Smart Diagnosis™ Function

Use this feature to help you diagnose and solve problems with your appliance.

NOTE

- For reasons not attributable to LGE's negligence, the service may not operate due to external factors such as, but not limited to, Wi-Fi unavailability, Wi-Fi disconnection, local app store policy, or app unavailability.
- The feature may be subject to change without prior notice and may have a different form depending on where you are located.

Using LG ThinQ to Diagnose Issues

If you experience a problem with your Wi-Fi equipped appliance, it can transmit troubleshooting data to a smartphone using the **LG ThinQ** application.

- Launch the **LG ThinQ** application and select the **Smart Diagnosis**™ feature in the menu. Follow the instructions provided in the **LG ThinQ** application.

Using Audible Diagnosis to Diagnose Issues

Follow the instructions below to use the audible diagnosis method.

- Launch the **LG ThinQ** application and select the **Smart Diagnosis**™ feature in the menu. Follow the instructions for audible diagnosis provided in the **LG ThinQ** application.

1 Press the **Power** button to turn on the appliance.

- Do not press any other buttons.

2 Hold the mouthpiece of your phone in front of the appliance.

- Washer: Hold the phone to the right of the **Start/Pause** button.
- Dryer: Hold the phone to the left of the **Power** button.

3 Press and hold the **Steam + Extra Rinse** (Washer) / **Steam + Reduce Static** (Dryer) buttons for **3 seconds** or until the audible tones start. Hold the smartphone mouthpiece to the logo until the data transfer is complete.

- Keep the smartphone in place until the data transfer has finished. Time remaining for data transfer is displayed.

4 After the data transfer is complete, the diagnosis will be displayed in the application.

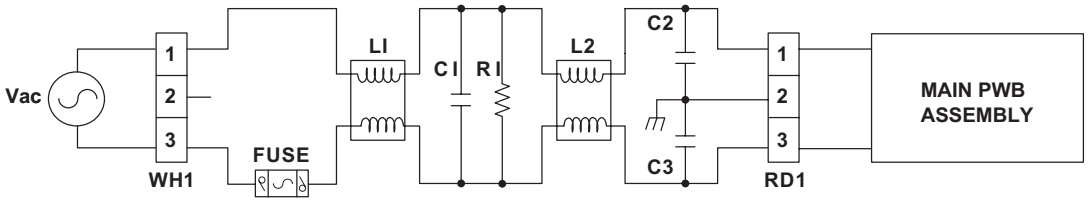
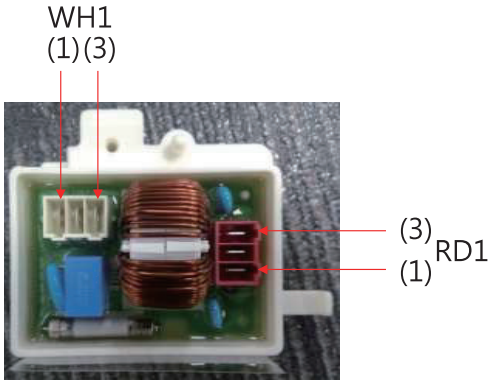
NOTE

- For best results, do not move the smartphone while the tones are being transmitted.

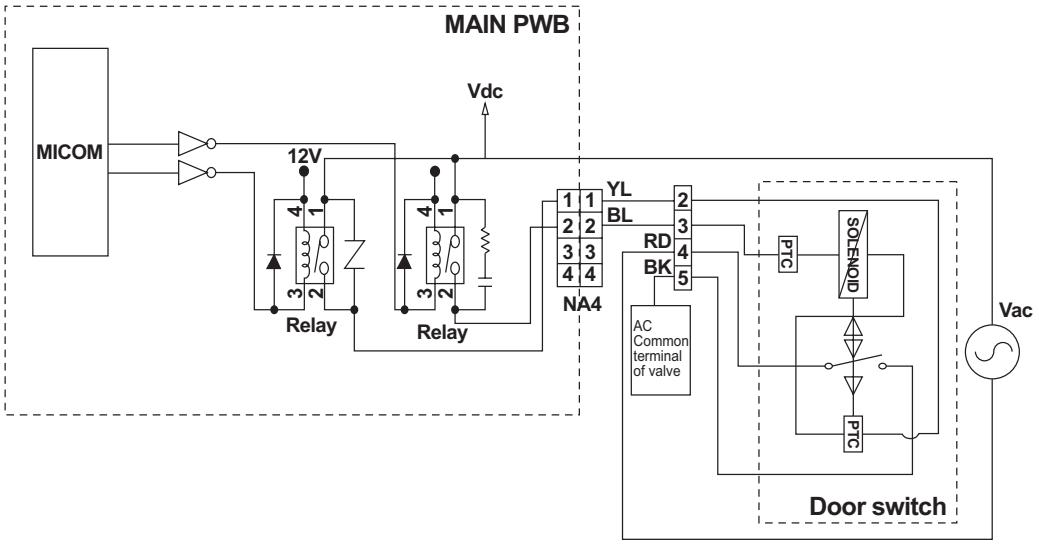
8. COMPONENT TESTING INFORMAT (WASHER)

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

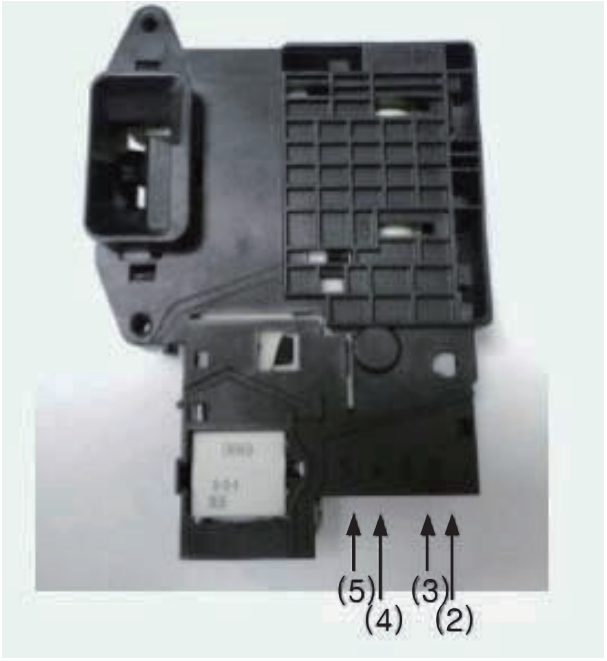
8-1. Filter Assembly (Line Filter)

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

8-2. 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



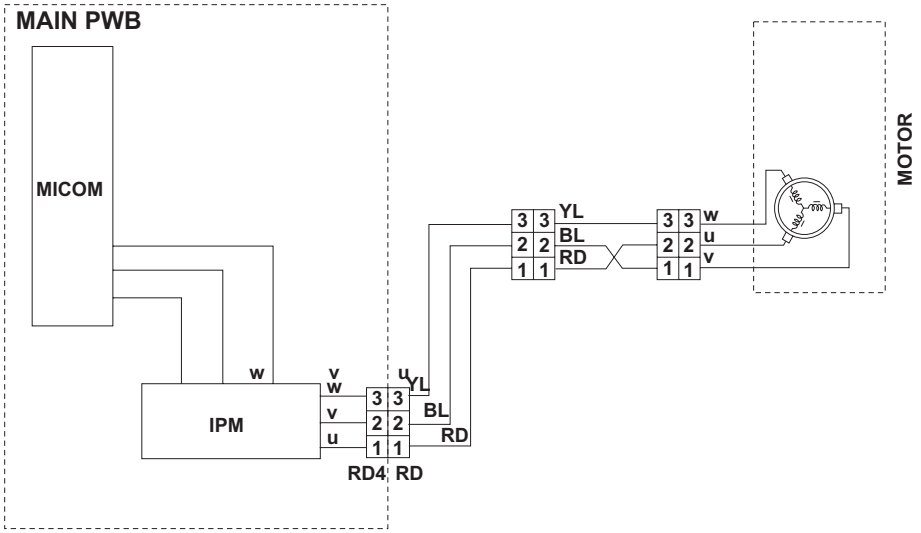
Result

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

8-3. Stator Assembly

Wiring diagram

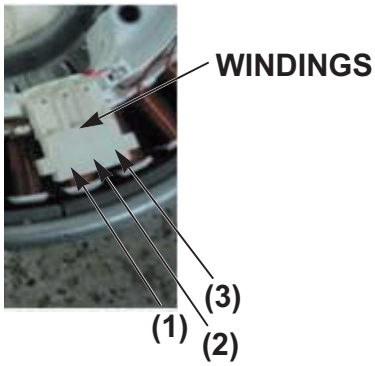
Circuit in the MAIN PWB / Wiring Diagram



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)



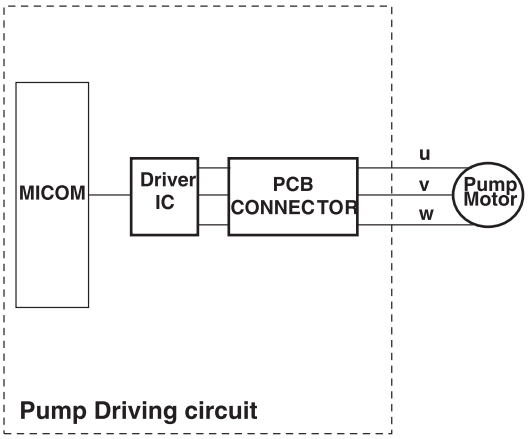
Result (Windings)

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

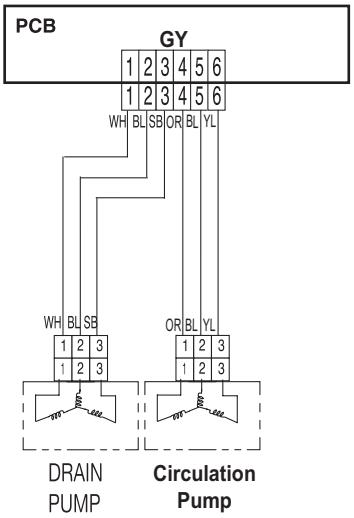
8-4. Pump Motor Assembly

Wiring diagram

Circuit in the MAIN PWB

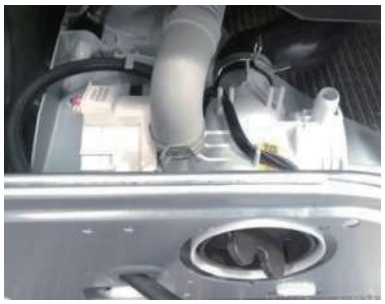


Wiring Diagram



* Each circuits of loadsin wiring diagram are all same.

Object

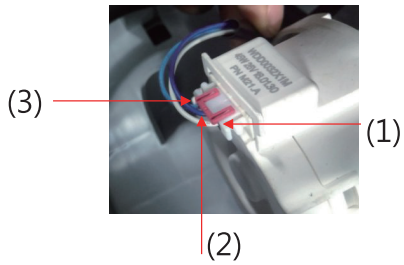


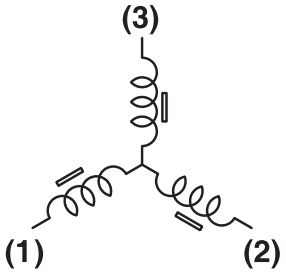
Function

Two pump motors are used to drain the tub

Test points

DrainPump





Result

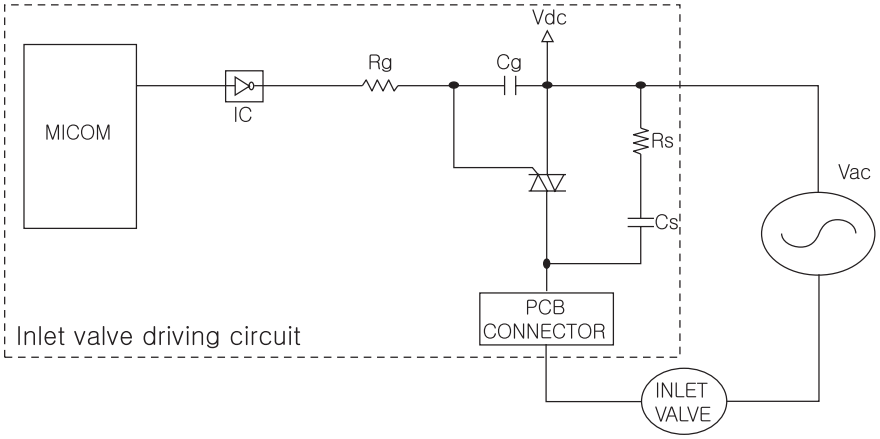
Drain Pump

Test Points	Result
(1) to (2)	5-15 Ω

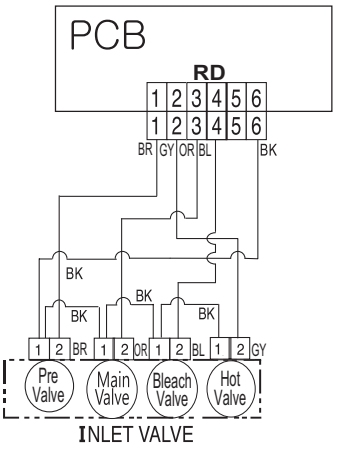
8-5. Inlet Valve Assembly

Wiring diagram

Circuit in the MAIN PWB



Wiring Diagram

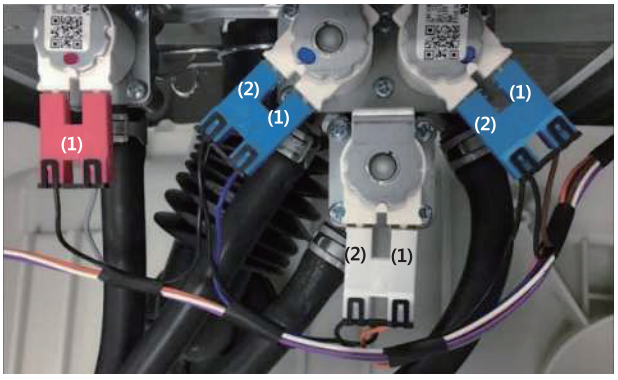


Function

Depending on the cycle and water temperature, the controller will energize the hot or cold water valve solenoids to regulate the selected water temperature.

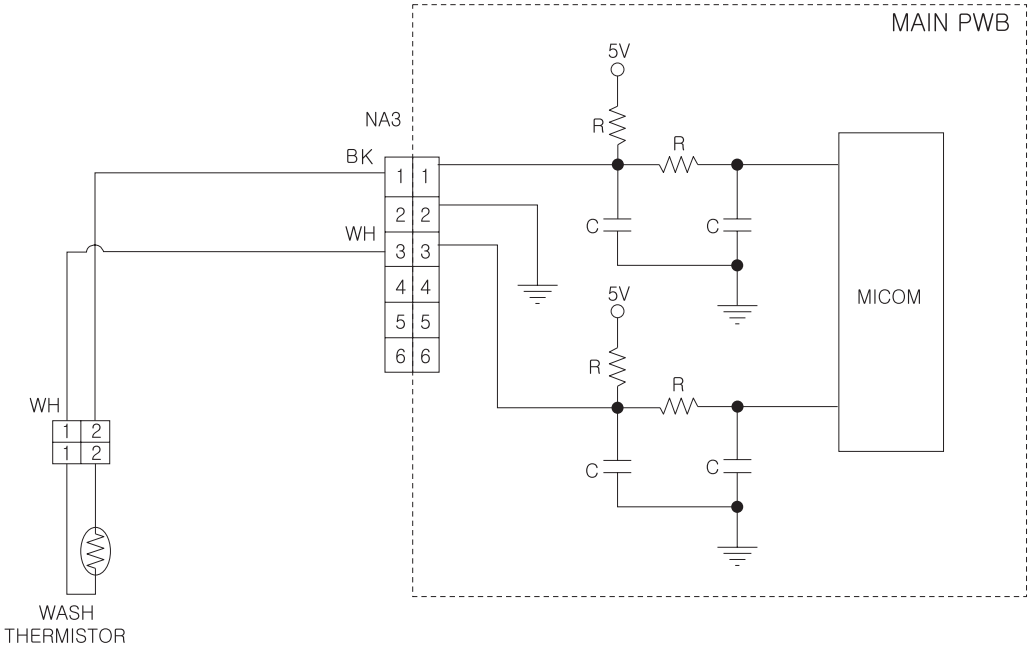
Test points and Result

Remove the connector from the valve and check the resistance.



Test Points	(1) - (2)
Result	0.8-1.2 kΩ

8-6. 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

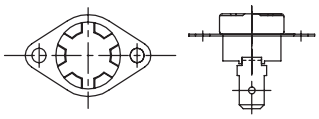
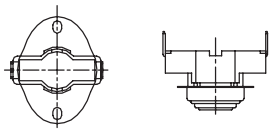
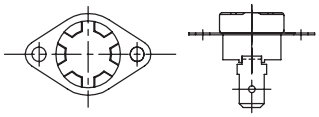
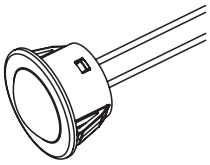
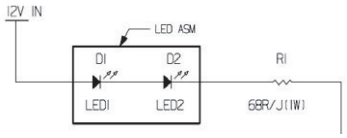
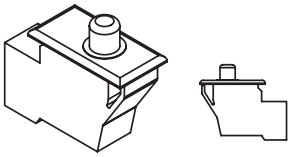
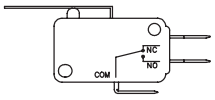
Result

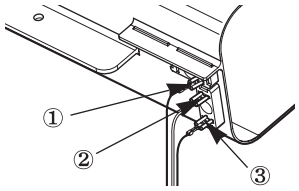
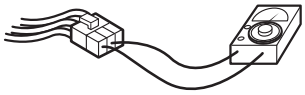
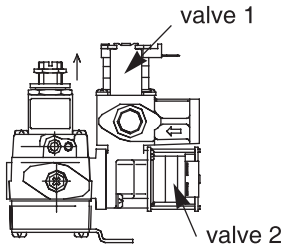
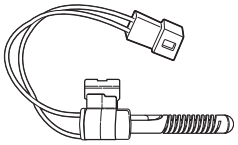
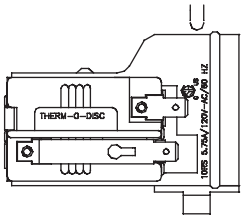
Wash Thermistor

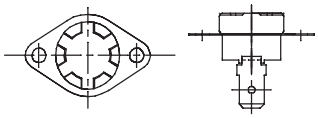
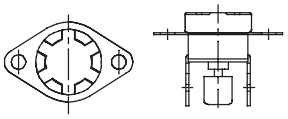
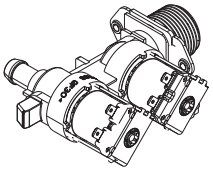
Test Points	Result (tolerance ±5%)	Remarks
(1) to (2)	39.5 kΩ	At 86°F (30°C)
	26.1 kΩ	At 104°F (40°C)
	12.1 kΩ	At 140°F (60°C)
	8.5 kΩ	At 158°F (70°C)
	3.8 kΩ	At 203°F (95°C)
	2.8 kΩ	At 221°F (105°C)

8-7. Component Tesing Information (Dryer)

⚠ CAUTION When Checking the component, be sure to turn the power off, and do voltage discharge sufficiently.

Component	Test Procedure	Check result	Remark
1. Thermal cut off  Check Top Marking: N140	Measure resistance of terminal to terminal ① Open at 284 ± 9˚F (140 ± 5˚C) ② Auto reset -31˚F (-35˚C) Same shape as outlet thermostat.	If thermal fuse is open must be replace ① Resistance value ≒ ∞ ② Continuity (250˚F ↓) < 1Ω	• Heater case-Safety • Electric type
2. Hi limit Thermostat (Auto reset) 	Measure resistance of terminal to terminal ① Open at 257 ± 9˚F (125 ± 5˚C) ② Close at 201 ± 9˚F (94 ± 7˚C)	① Resistance value ≒ ∞ ② Resistance value < 5Ω	• Heater case-Hi limit • Electric type
3. Outlet Thermostat (Cut off)  Check Top Marking: N85	Measure resistance of terminal to terminal ① Open at 185 ± 9˚F (85 ± 5˚C) Same shape as thermal cut off.	① Resistance value ≒ ∞ ② Resistance value < 5Ω	• Blower housing - Safety
4. LED Lamp 	Schematic: 	If the lamp is turned on by connecting is normal.	It is not measured by multimeter because V_{th} is 3.2V
5. Door switch 	Measure resistance of the following terminal 1) Door open ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2) 2) Door closed ① Terminal: COM - NC (1-3) ② Terminal: COM - NO (1-2)	① Resistance value < 1Ω ② Resistance value ≒ ∞ ① Resistance value ≒ ∞ ② Resistance value < 1Ω	
6. Idler switch 	Measure resistance of the following terminal: COM - NC	1. Lever open ① Resistance value < 1Ω 2. Lever push (close) ② Resistance value ≒ ∞	

Component	Test Procedure	Check result	Remark
7. Heater 	Measure resistance of the following terminal ① Terminal: 1 (COM) - 2 ② Terminal: 1 (COM) - 3 ③ Terminal: 2 - 3	① Resistance value: 10Ω ② Resistance value: 10Ω ③ Resistance value: 20Ω	• Electric type
8. Thermistor 	Measure resistance of terminal to terminal Temperature condition: 58˚F ~ 104˚F (10~40˚C)	Resistance value: 10Ω	• Heater case Hi limit • Electric type
9. Motor			• See Page 15
10. Gas Valve 	Measure resistance of the following terminal ① Valve 1 terminal ② Valve 2 terminal	① Resistance value 1.5k~2.5kΩ ② Resistance value 1.5k~2.5kΩ	• Gas type
11. Igniter 5318EL3001 	Measure resistance from terminal to terminal.	Resistance value 50~800Ω (for 5318EL3001)	• Gas type
12. Flame Detect 	Measure resistance of terminal to terminal ① Open at 370˚F (Maximum) ② Close at 320˚F	① Resistance value ≒ ∞ ② Resistance value < 1Ω	• Gas type

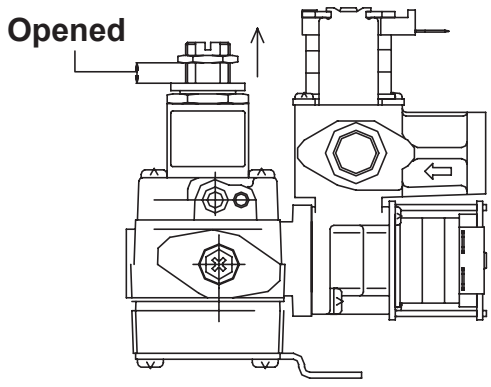
Component	Test Procedure	Check result	Remark
13. Outlet Thermostat (Auto reset)  Check Top Marking: N95	Measure resistance of terminal to terminal ① Open at 203 ± 41˚F (95 ± 5˚C) ② Close at 159 ± 41˚F (70 ± 5˚C)	① Resistance value ≒ ∞ ② Continuity < 1Ω	• Gas type • Gas funnel
14. Outlet Thermostat (Manual reset)  Check Top Marking: N100	Measure resistance of terminal to terminal ① Open at 230 ± 41˚F (110 ± 5˚C) ② Manual reset	① Resistance value ≒ ∞ ② Continuity < 1Ω	• Gas type • Gas funnel
15. Inlet. valve 	Measure resistance of the Following terminal Left picture -.plate	DC 12V Limit current: 550mA Coil resist: 24Ω ± 10%	Electric type

9. GAS SETTING

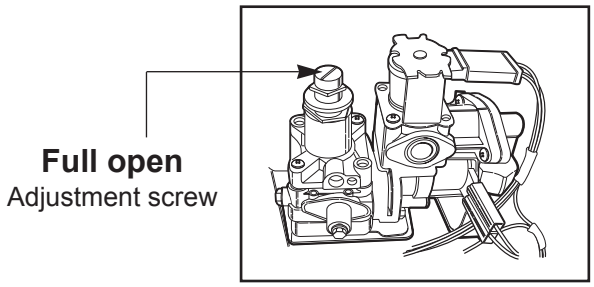
9-1.Change Gas Setting (Natural Gas, Propane Gas)

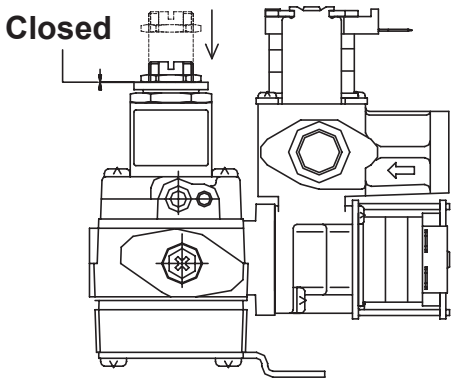
⚠ CAUTION *The burner is set for natural gas at the factory. The propane orifice conversion kit is sold as a service part to authorizer servicers only. Part numbers are shown below.*

STEP 1 : VALVE SETTING

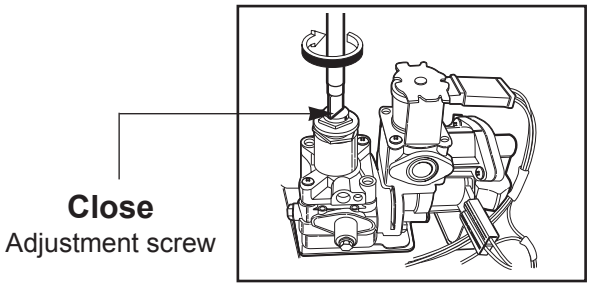


NATURAL GAS SETTING

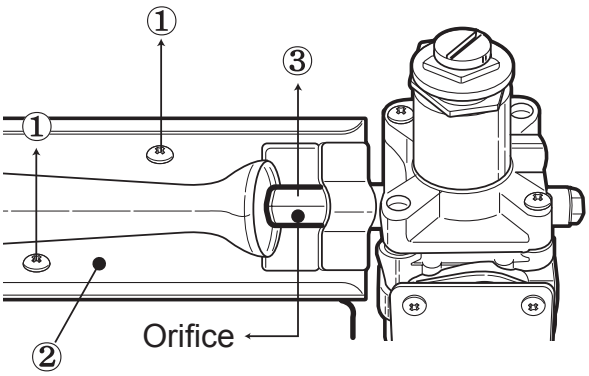




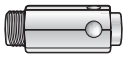
PROPANE GAS SETTING



STEP 2 : ORIFICE SETTING

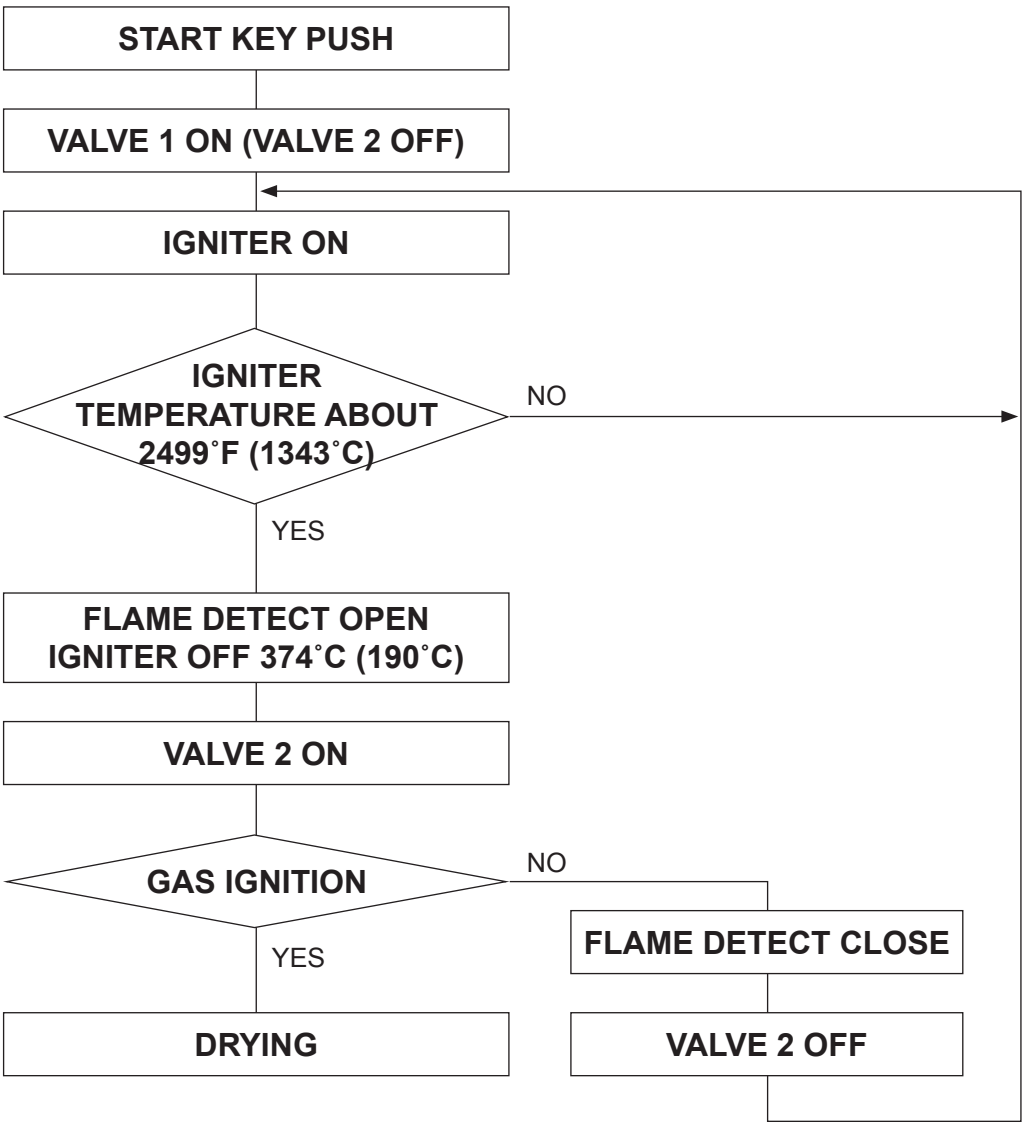


① Remove 2 screws.
② Disassemble the pipe assembly.
③ Replace natural gas orifice with propane gas orifice.

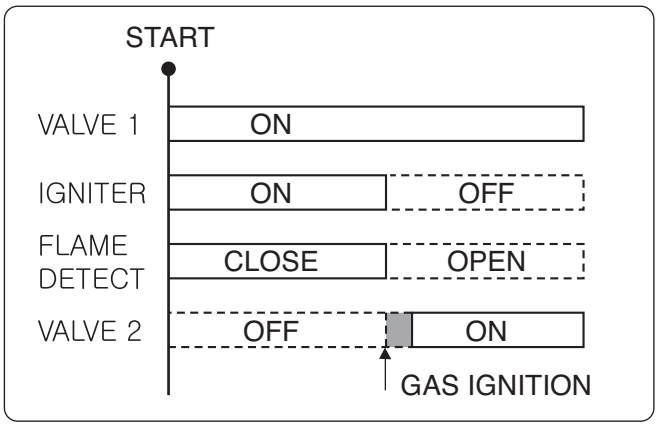
Gas type	Orifice P/No	Marking	Shape
Natural Gas	4948EL4001B	NCU	
Propane Gas	4948EL4002C	PCK	

※ **Kit contents:** Orifice (Dia. = 1.47 mm, for Propane Gas)
Replacement Label
Instruction Sheet

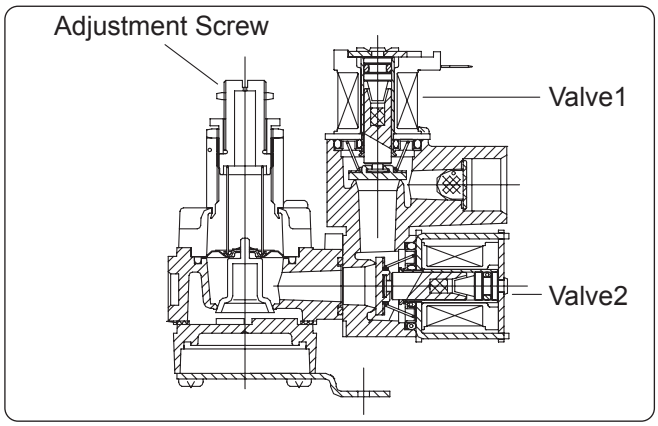
9-2. Gas Valve Flow



GAS IGNITION



GAS VALVE STRUCTURE

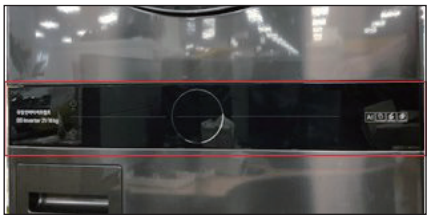


10. DISASSEMBLY INSTRUCTIONS (WASHER)

[Control Panel]

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

(1) Control Panel is located in the center of the product.

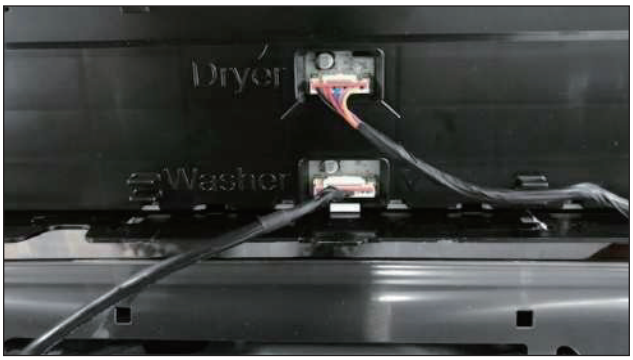


(2) Push the part that says “Push” on the Cap

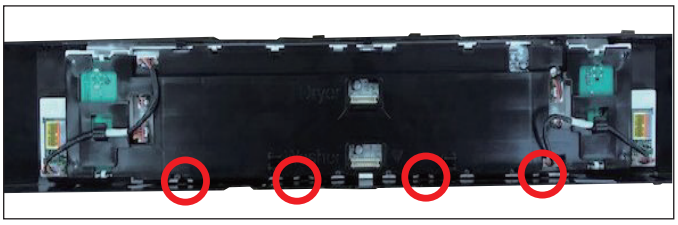
(3) Open the cap and loosen the screws(both sides).

(4) It can be removed by pulling the control panel forward.

(5) Disconnect the wire harnesses from the washer and dryer to the control panel.

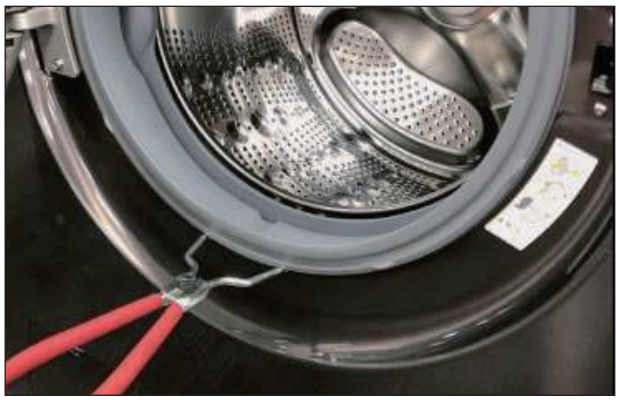


(6) Disconnect 4 hooks and take off the Display PCB ASM



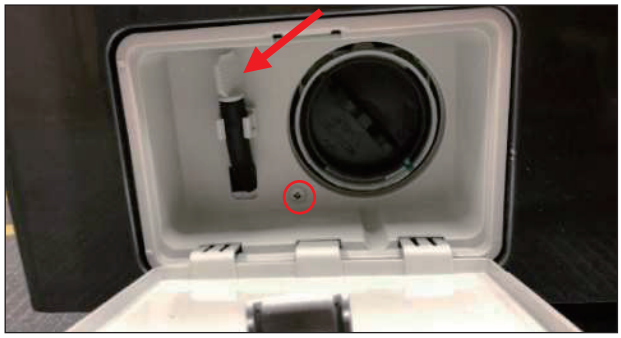
[Cabinet Cover]

(1) Open the door and disassemble the gasket clamp with a tool.

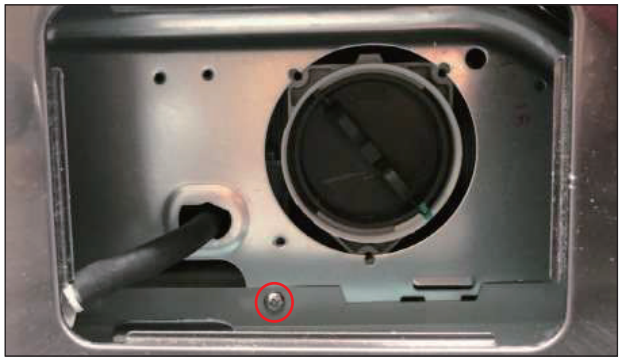


(2) Unscrew one screw from the filter cover.

(3) Insert the (-) screwdriver on both sides of the filter cover and flip it.

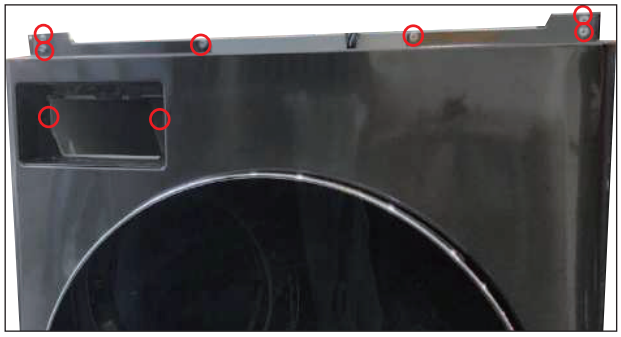


(4) Remove 1 Screw from the bottom of Cover Cabinet.



(5) Remove the drawer.

(6) Remove the 8 screws shown in the figure below.



* If the dryer is raised, loosen 2 more screws.

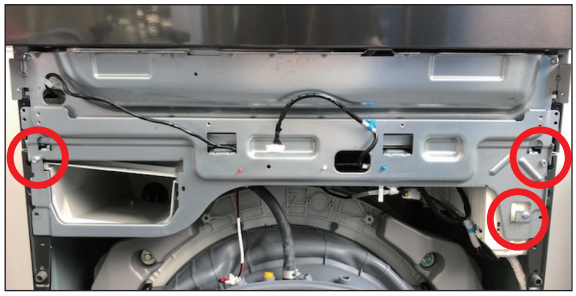
(7) Lean toward the front of the cabinet cover and remove the door switch.

(8) Remove the Cabinet Cover by pulling it in the direction of the arrow.

[Panel Frame]

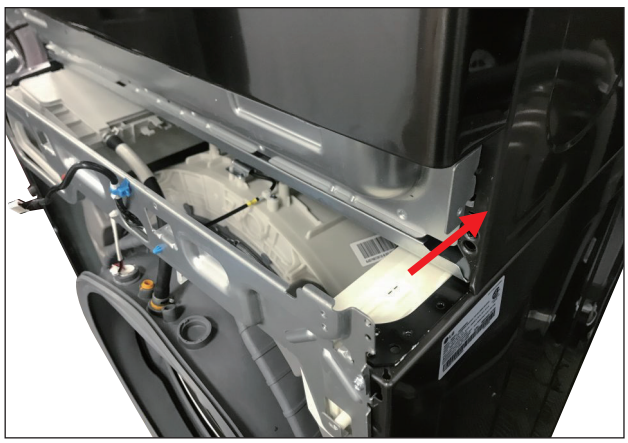
※ Don’t need to Unstack to Dryer. Disassemble the cabinet cover ASM and Abefore proceeding.

(1) Remove the cabinet cover and loosen the front screw.

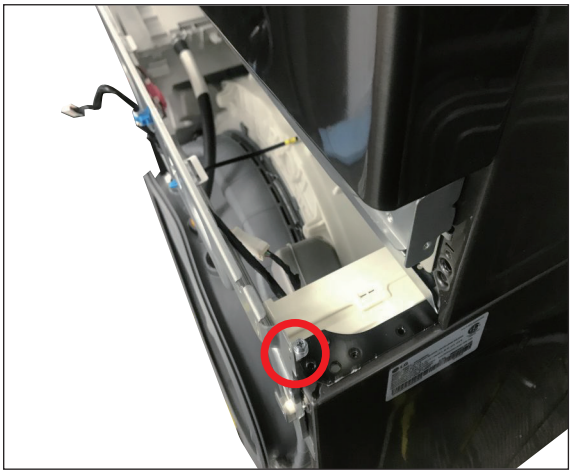


(2) Loosen 4 screws on backside bracket

(3) Push the Dryer to backside

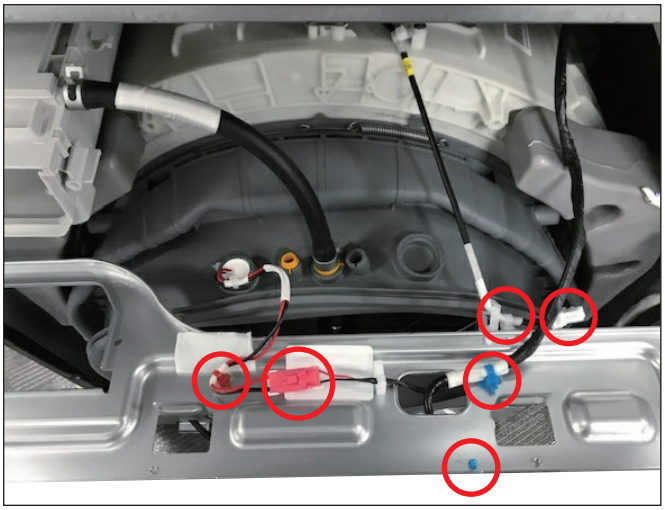


(4) Unscrew both side 2 screws.



(5) Lift Up Panel frame.

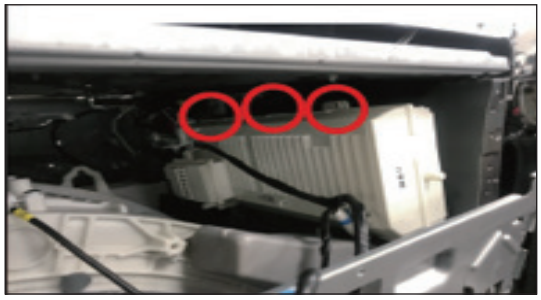
(6) Untighten 2 housings(red and white) and 4 cable ties.



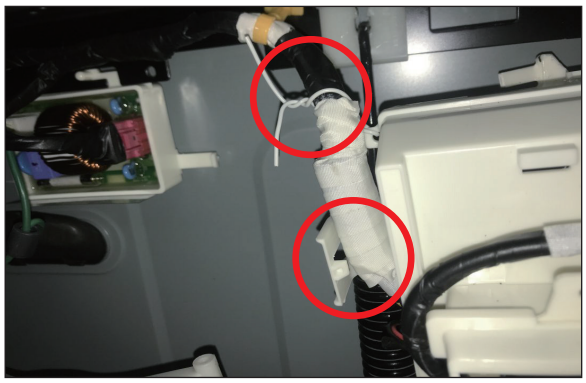
[Main PCB Assembly]

※ Don't need to Unstack to Dryer. Disassemble the cabinet cover ASM and Panel Frame before proceeding.

(1) Unlock all three highlighted hooks.



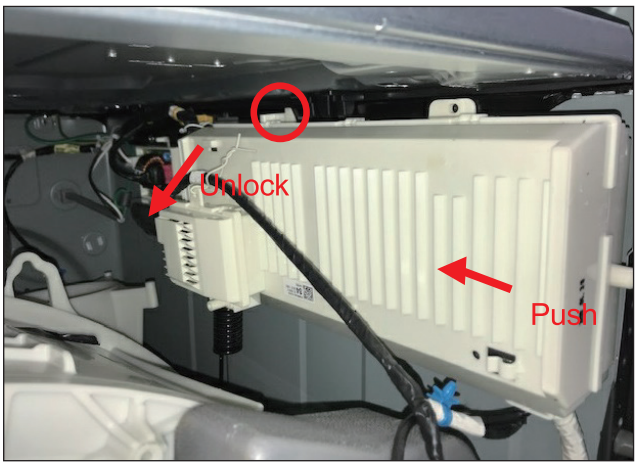
(2) Remove Harness and cable tie



(3) Remove the protective cover by pulling it forward.

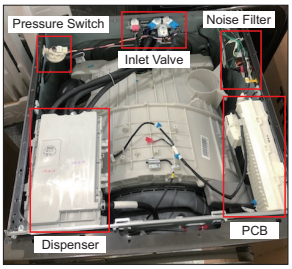
(4) Remove all housings and connectors.

(5) Unlock the main PCB fixing guide and push it In the direction of the arrow . And take off the PCB



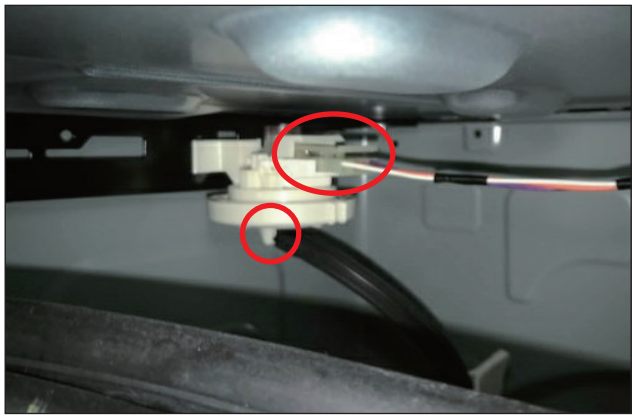
[Pressure Switch / Noise Filter]

※ Don’t need to Unstack to Dryer. Disassemble the cabinet cover ASM and Panel Frame before proceeding.



Pressure Switch

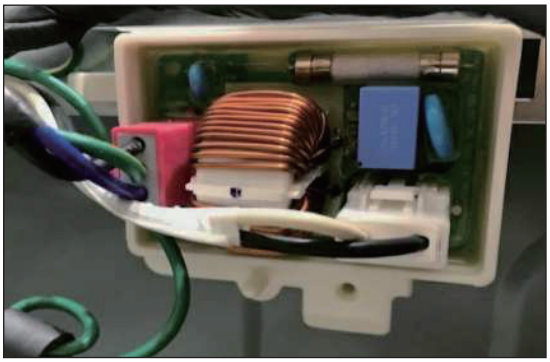
(1) Disassemble hose and housing on PRESSURE S/W



(2) Disassemble twist Pressure switch clockwise or unclockwise.

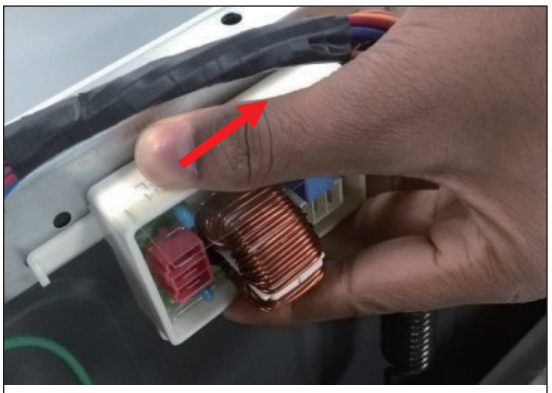
Noise Filter

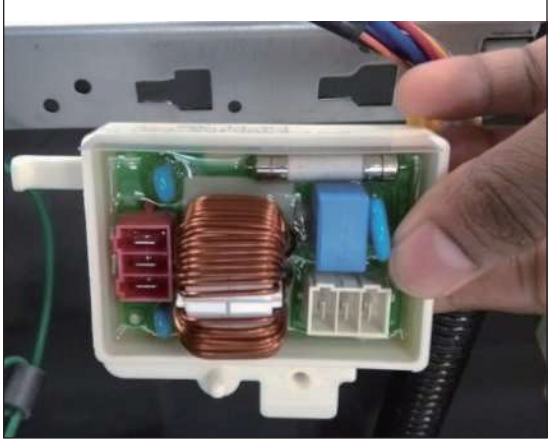
(1) Disassemble both connectors from the noise filter.



(2) Unlock the locked site.

(3) Pull out noise filter in highlighted direction.





[Door Assembly]

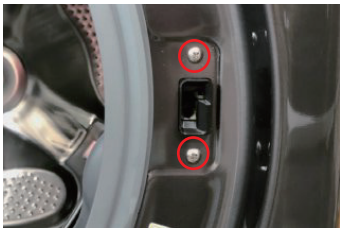
(1) Open the door.

(2) Unscrew 2 screws of the hinge.
(3) Lift the door up and remove it.

[Door Lock Switch]

(1) Separate Door Gasket using a tool

(2) Loosen 2 screws



[Pump]

(1) Disassemble the cabinet cover.

(2) Separate the pump hose , the bellows assembly from the pump assembly.

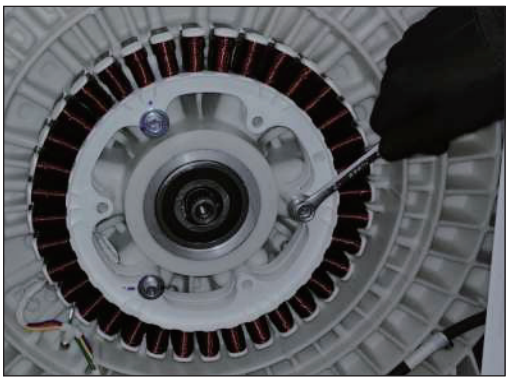
(3) Unscrew the 2 screws and disassemble the pump assembly follow red arrow direction.

[Motor / Damper]

(1) Disassemble the back cover.
(2) Remove the bolt.

(3) Pull out the rotor.

(1) Use a 10 mm socket wrench to remove the 3 bolts on the stator.
(2) Unplug the 1 connectors from the stator.



(3) 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.

[Unstack]

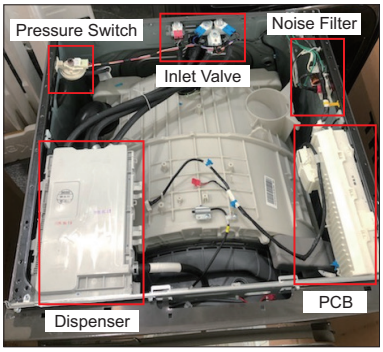
(1) Remove Control Panel

(2) Remove 6 screws on the rear bracket.

(3) Two or more people lift up the dryer.

(4) Shift down on the ground.

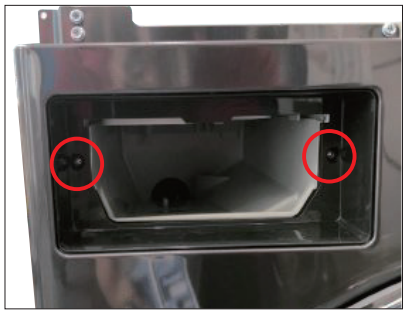
[Dispenser Assembly]



※ Disassemble the Dryer before proceeding.

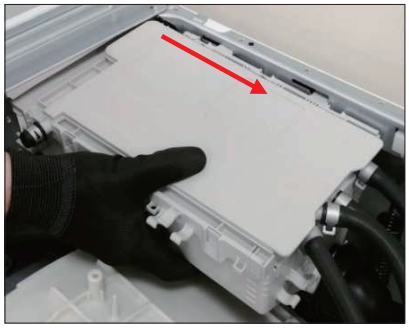
(1) After opening the drawer, press the arrow push button and pull.

(2) Loosen the 2 screws shown.

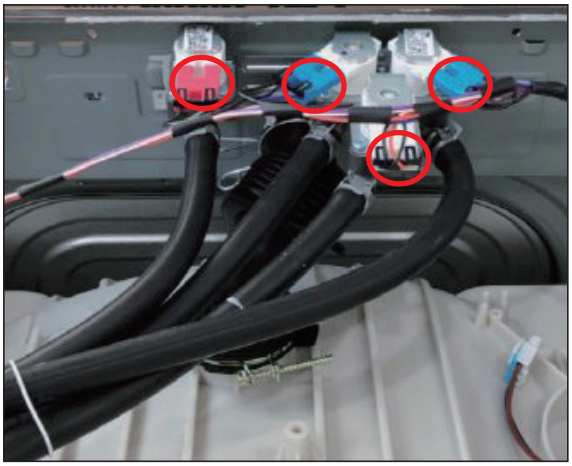


(3) Push the Dispenser in the direction of the arrow.

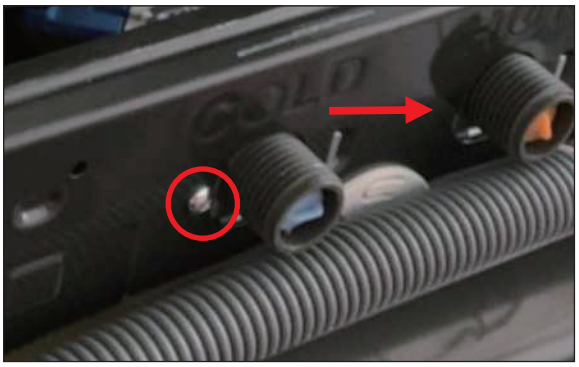
(4) Disassemble the bellows under the dispenser.



(5) Remove the connector connected to the valve.



(6) Unscrew one screw on the back of the product and push the valve in the direction of the arrow.



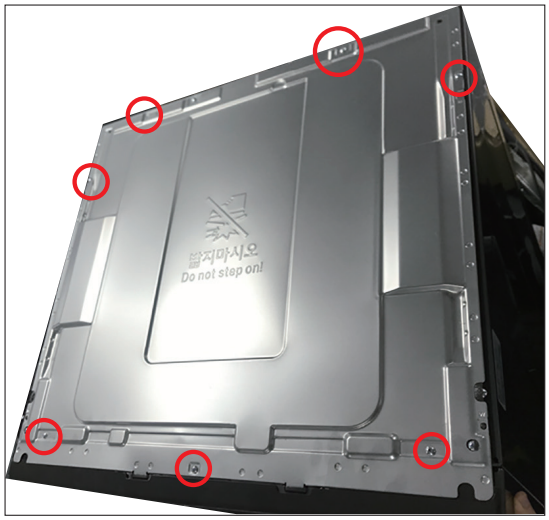
10. DISASSEMBLY INSTRUCTIONS (DRYER)

[Cabinet Cover Assembly]

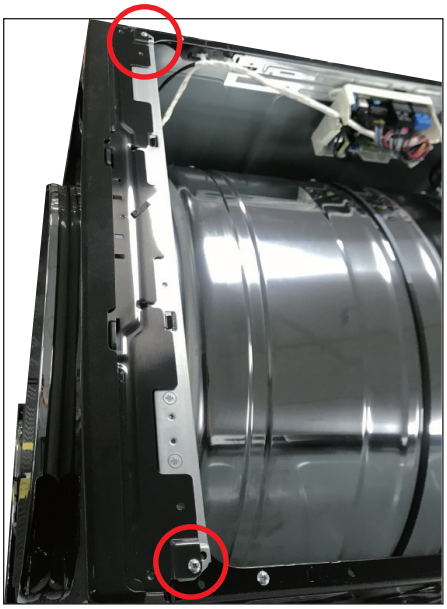
* The dryer can be SVC with the product STACK.

(1) Disassemble the control panel.

(2) Use the ladder to climb up, disassemble the 7 screws of the dryer TOP PLATE.

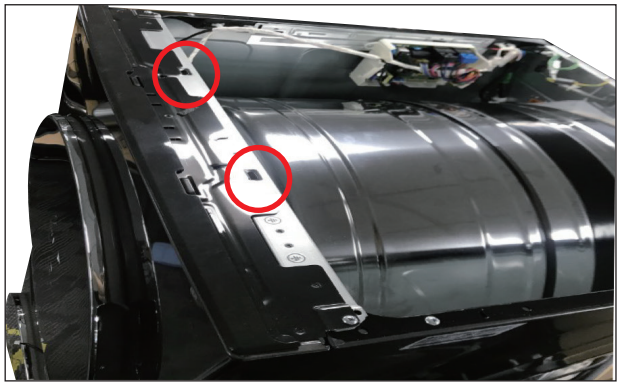


(3) Loosen the 2 screws shown above.

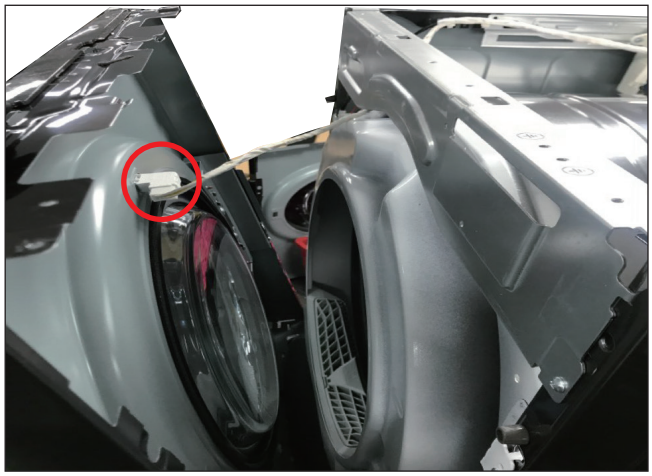


(4) Loosen the 2 screws marked on the front.

(4) Push the two hooks displayed from bottom to top.



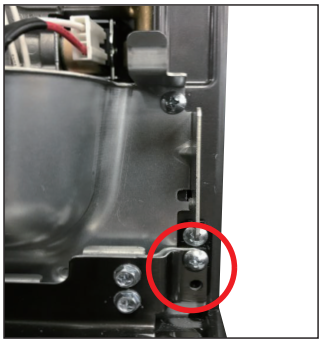
(5) Remove the cabinet cover after pulling and removing the door switch harness.



(6) Remove the Cabinet Cover by pulling it in the direction of the arrow.

[Lower Frame]

(1) Remove the 2 screws assembled with the side cabinet with a screwdriver.



(2) Remove 4 screws in Bracket.

(3) Push the Dryer to backward.

(4) Lift the lower frame forward and remove it

[Panel Frame Assembly]

(1) Remove the 2 screws assembled with the Side Cabinet using a screwdriver.

(2) Lift the panel frame upward and remove it.

[Tub Front Assembly]

(1) Remove 4 screws on the front of the tub front with a screwdriver.

(2) Seperate housings

(3) Remove the 3 cable ties

(4) Remove the tub front assembly by lifting it up.

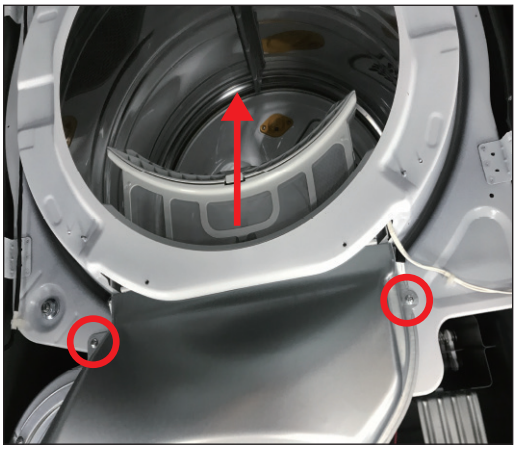
[Drum Assembly]

(1) Loosen belt from motor and idler pulleys.

(2) Carefully remove the drum.

[Air Duct]

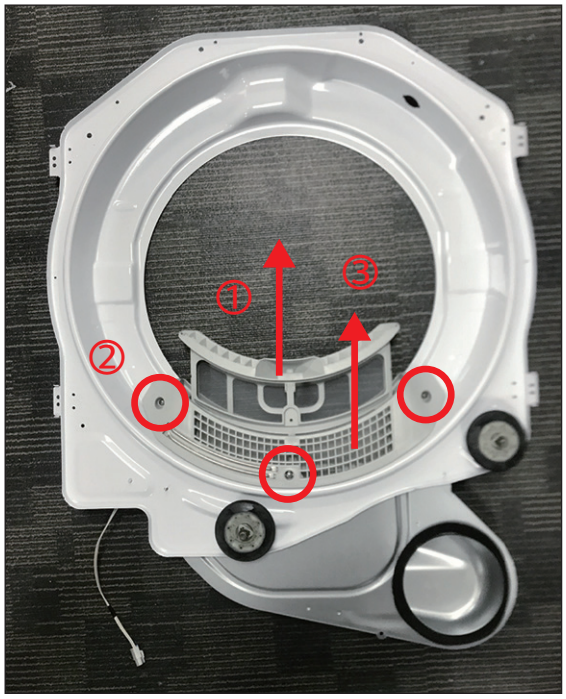
(1) Remove the Filter
(2) Remove 2 screws.



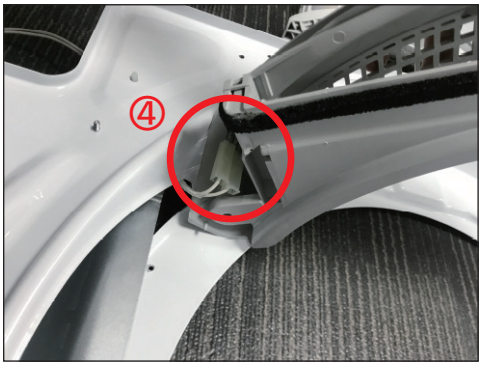
(3) Remove the air duct.

[Filter Assembly]

(1) Remove the filter.
(2) Remove 3 screws.
(3) Remove the cover grid.

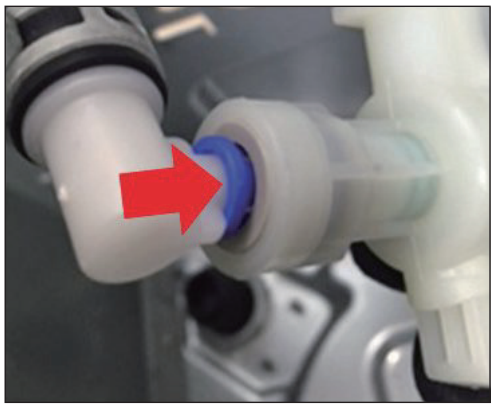


(4) Disconnect the electrode sensor.



[Replacing the Inlet Hose]

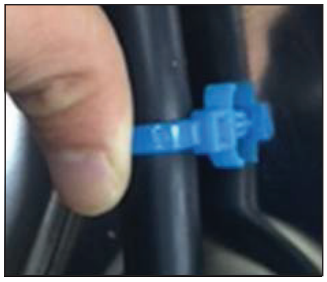
(1) Press and hold the release ring to remove the hose from the nozzle.




(2) Remove the 7 screws from the rear cover.
(3) Lift the rear tub off the support and pull it out.

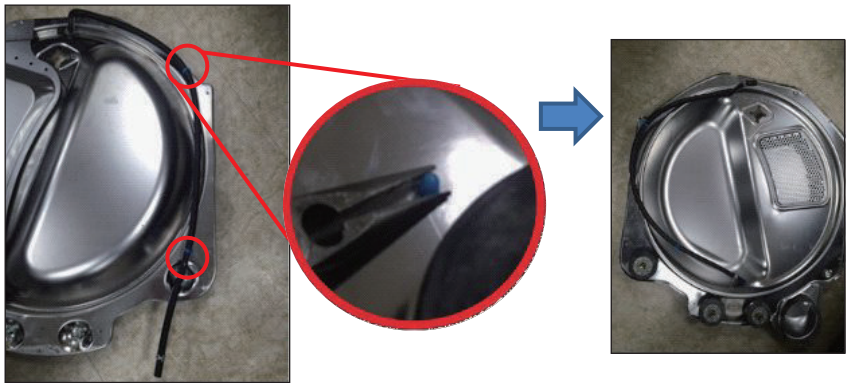


(4) Replace the hose, and assemble the cable tie holder in the rear tub.




(5) Remove the hose in generator.

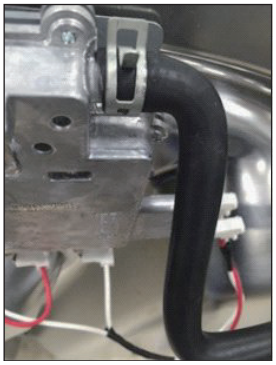

(6) Remove the cable tie holder in the rear tub.



(7) Replace the hose, and assemble the cable tie holder in the rear tub.

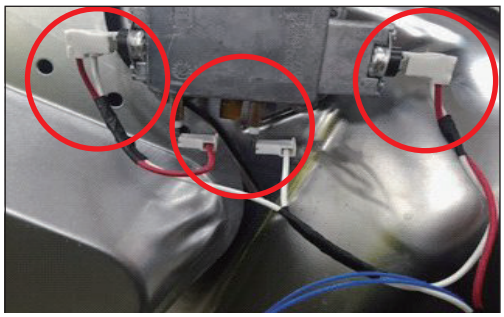

(8) After connection the hose to the generator, install the clamp.





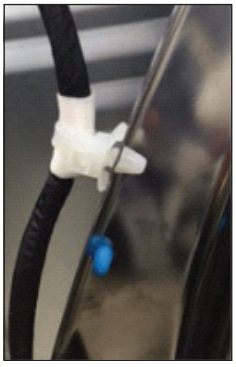
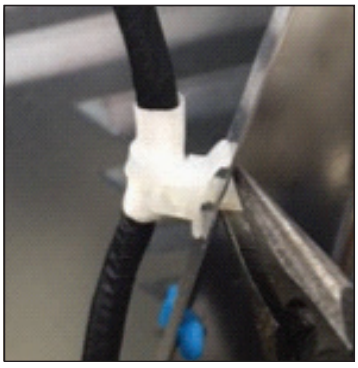
[Generator]

(1) Remove the six connectors from the generator.

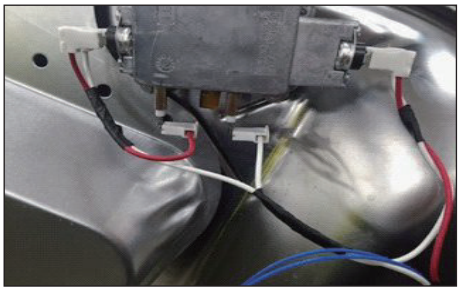



(2) Remove the thermistor screw from the generator.


(3) Remove the steam harness cable tie holder in the rear tub.
(4) Replace the steam harness and assemble the cable tie holder in the rear tub.

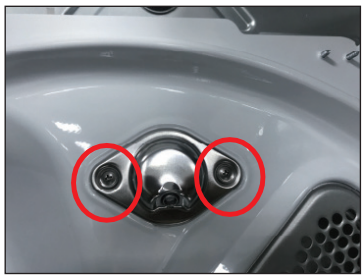




(5) Assemble the steam harness.
(6) Attach the thermistor and the screws to the generator.

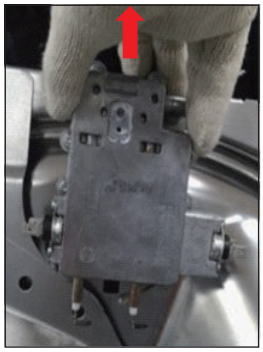
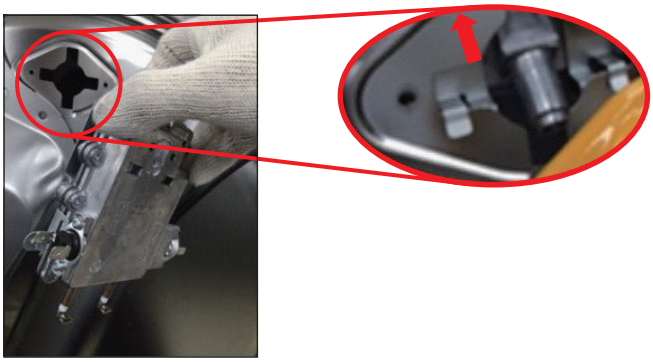



[Generator Bracket]

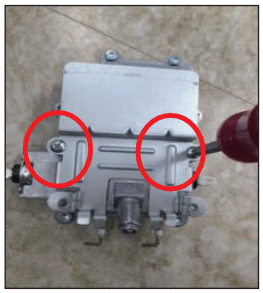
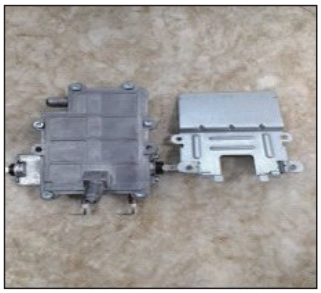
(1) Remove the cover and screws.



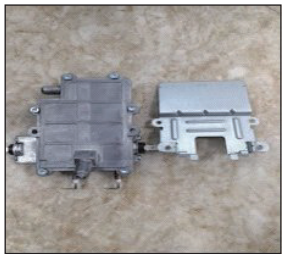

(2) To remove the rear tub, take off the steam generator first. Then remove the rear tub.

(3) Remove the bracket from the steam generator.

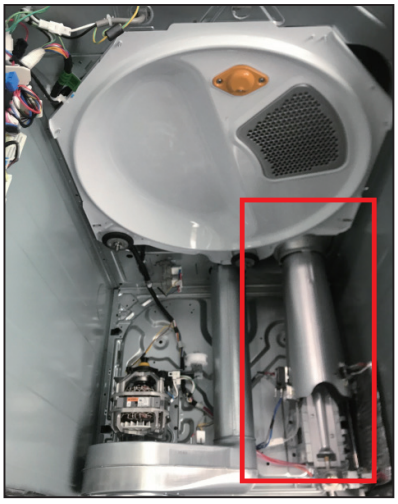



(4) Reassemble the steam generator and bracket.

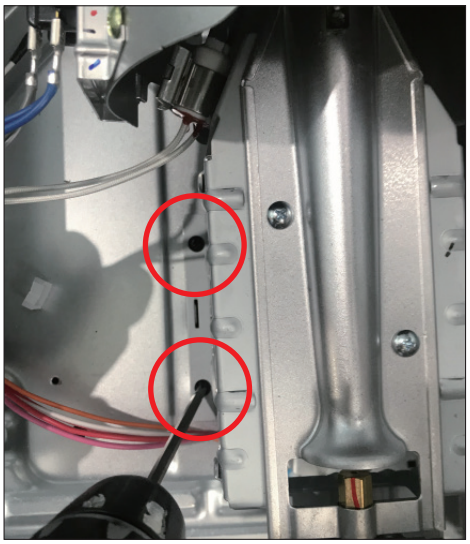



(5) Assemble the cover and screws.


[Burner ASM]

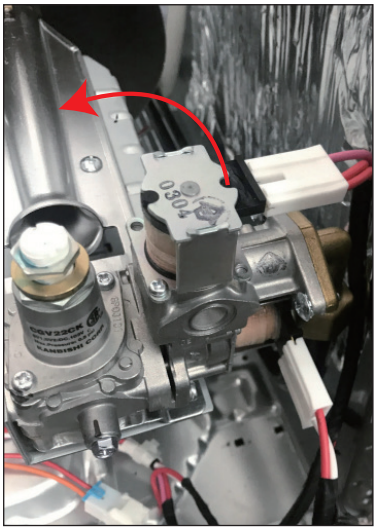


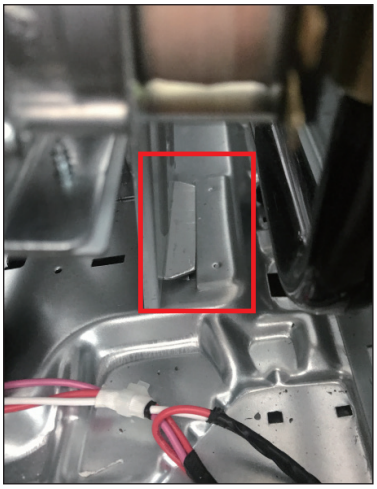
※ After loosen the drum, disassemble the burner ASM.



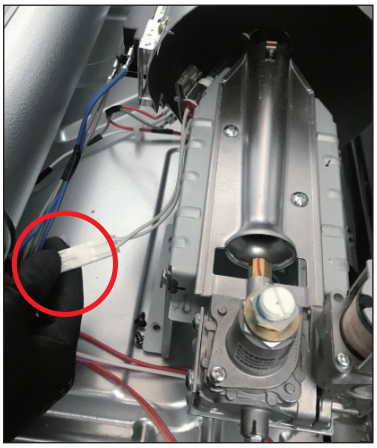
(1) Remove the cover and screws.

(2) Loosen the screw on the back.





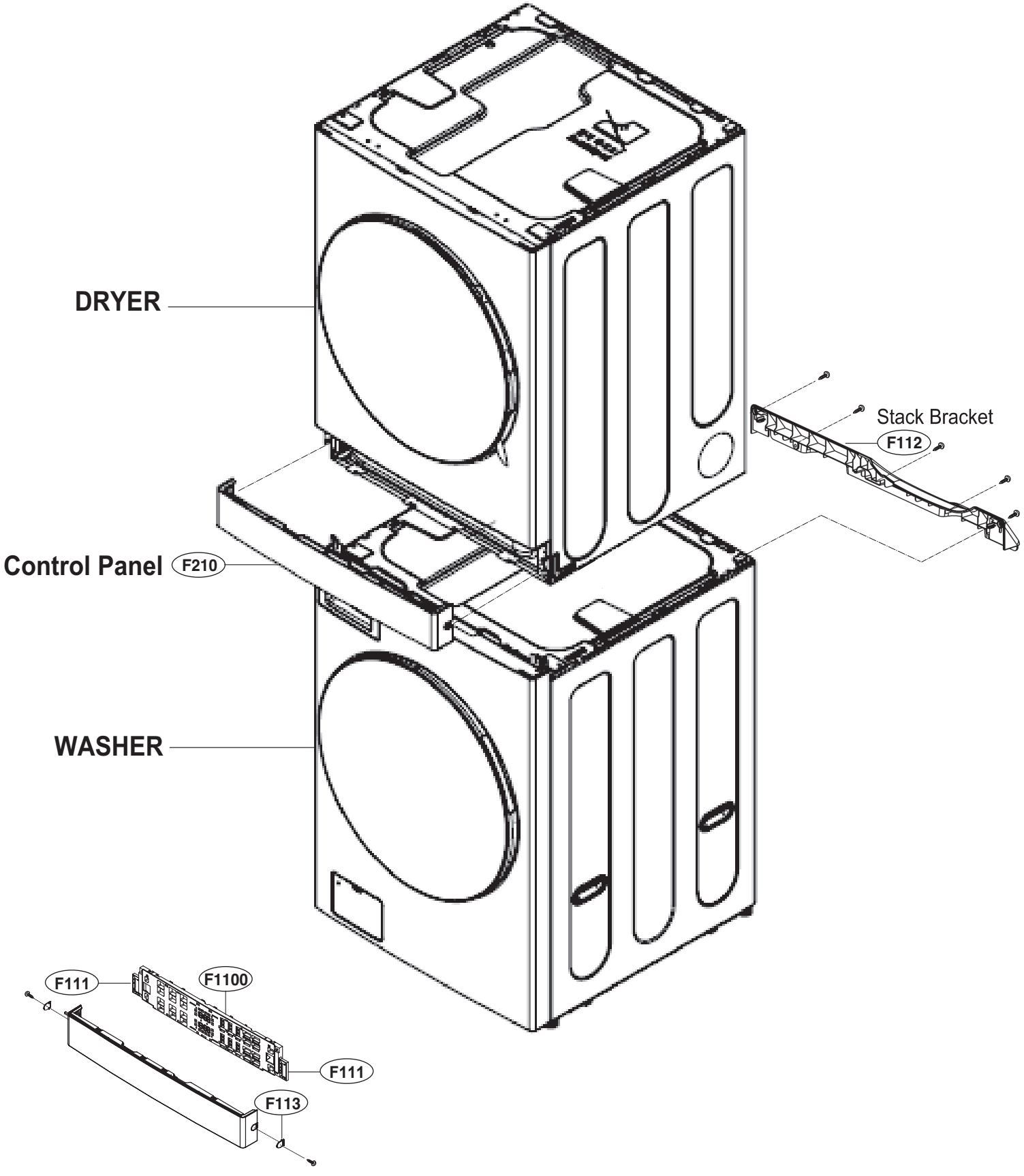
(3) When disassembling the Burner ASM, the hook is caught, so turn it out.



(4) Disassemble the housing.

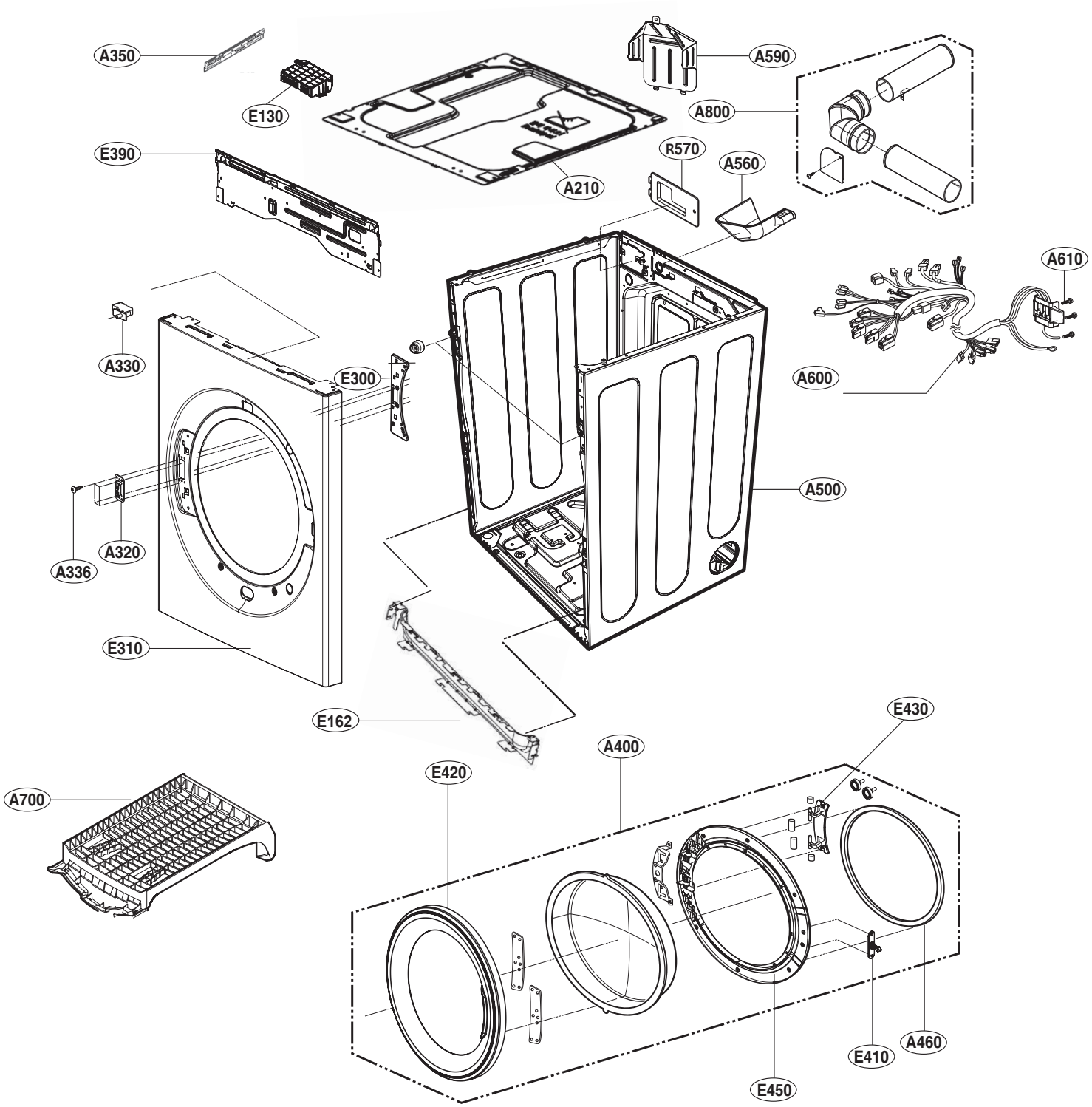
11. EXPLODED VIEW

FULL ASSEMBLY (WASHER & DRYER)



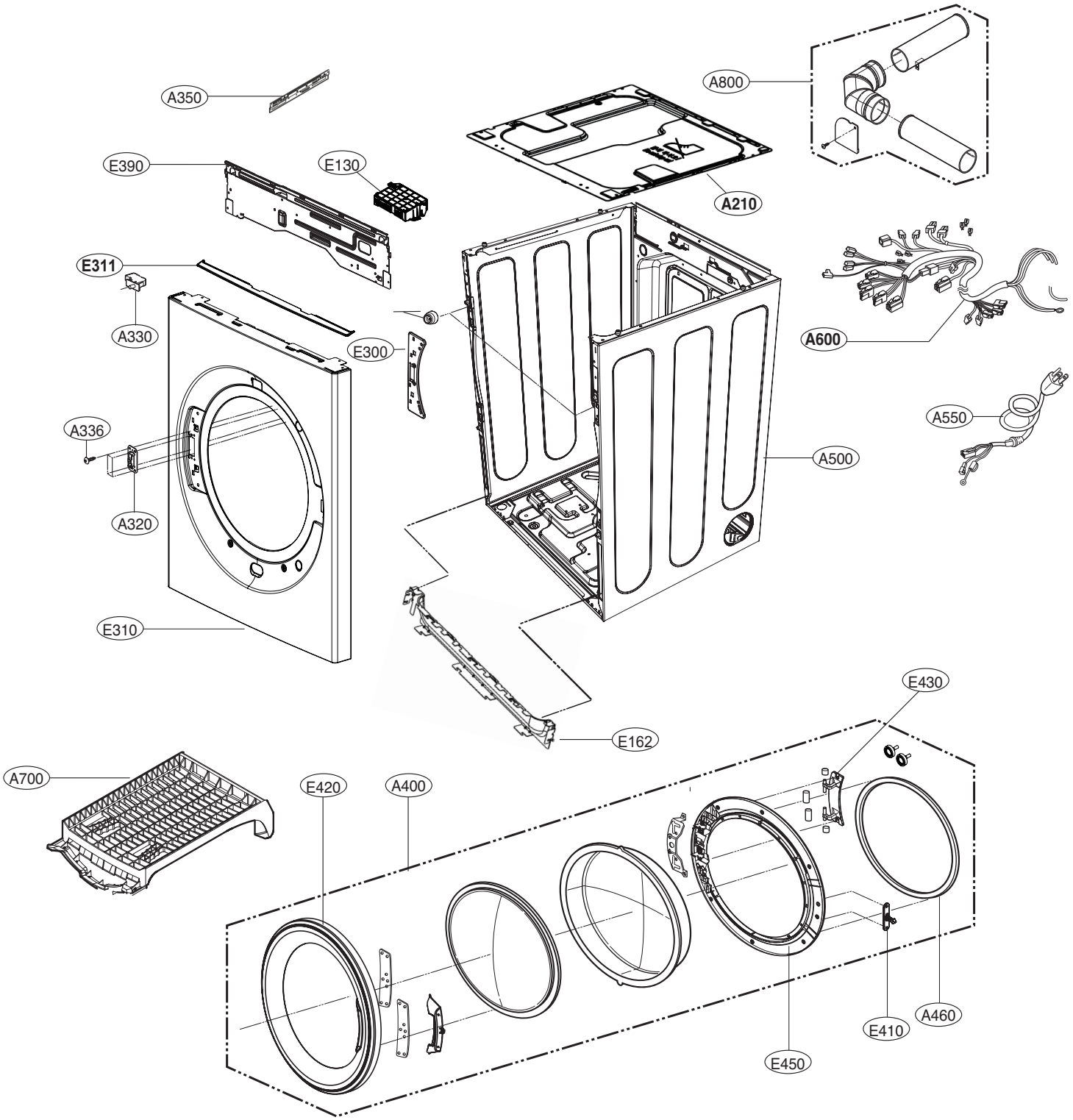
EXPLODED VIEW - DRYER

11-1. Cabinet and Door Assembly: Electric Type



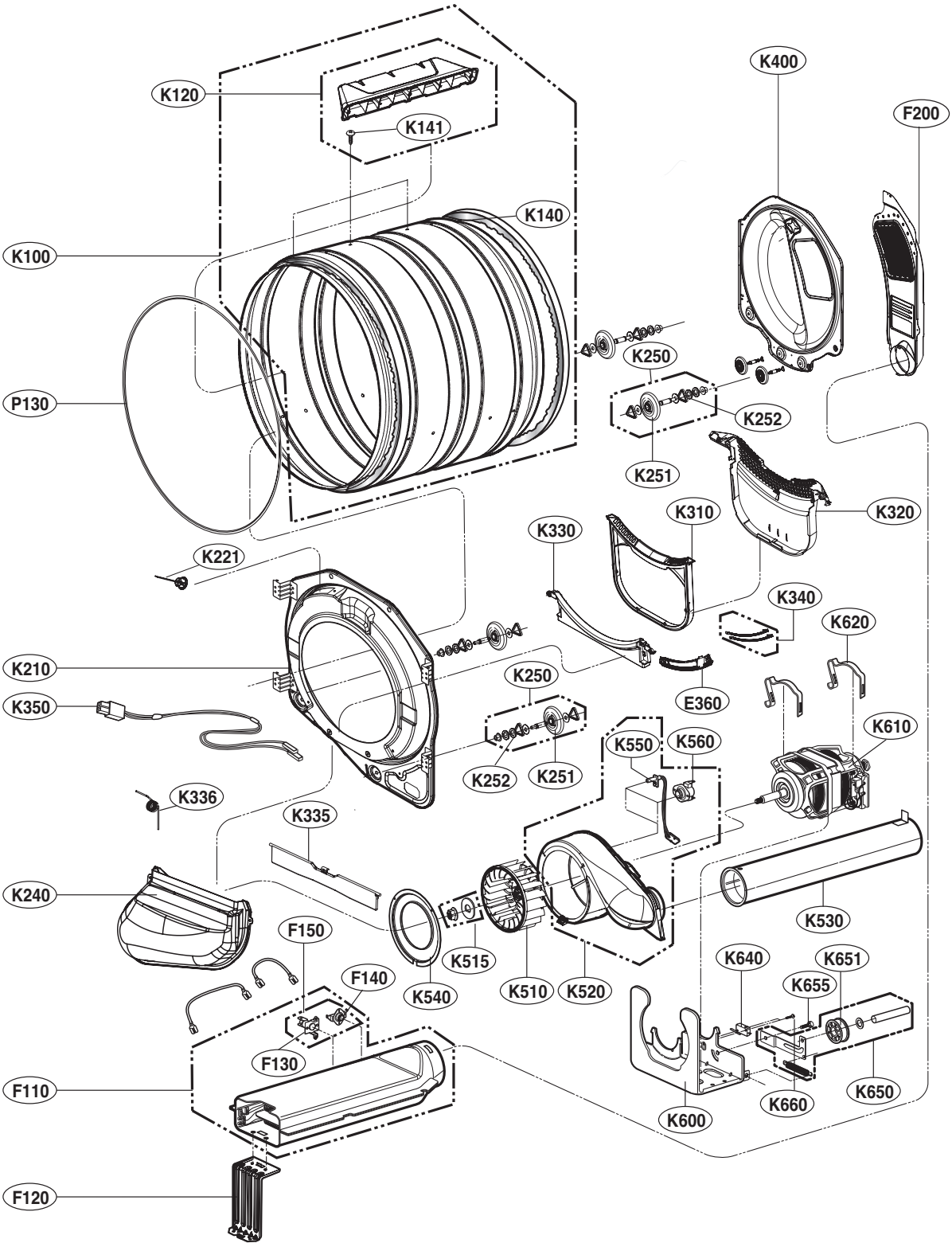
EXPLODED VIEW - DRYER

11-2. Cabinet and Door Assembly: Gas Type



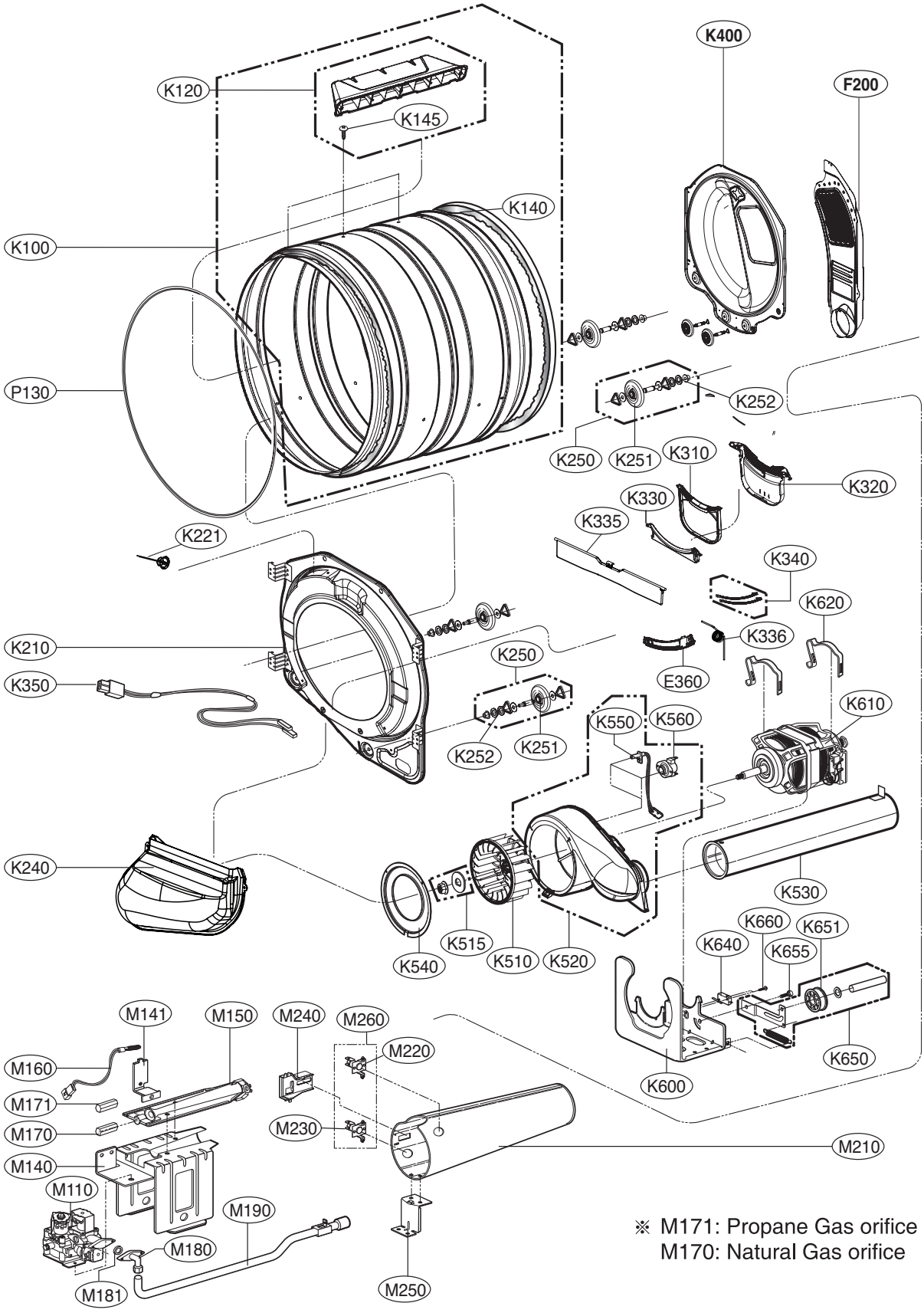
EXPLODED VIEW - DRYER

11-3. Drum and Motor Assembly: Electric Type



EXPLODED VIEW - DRYER

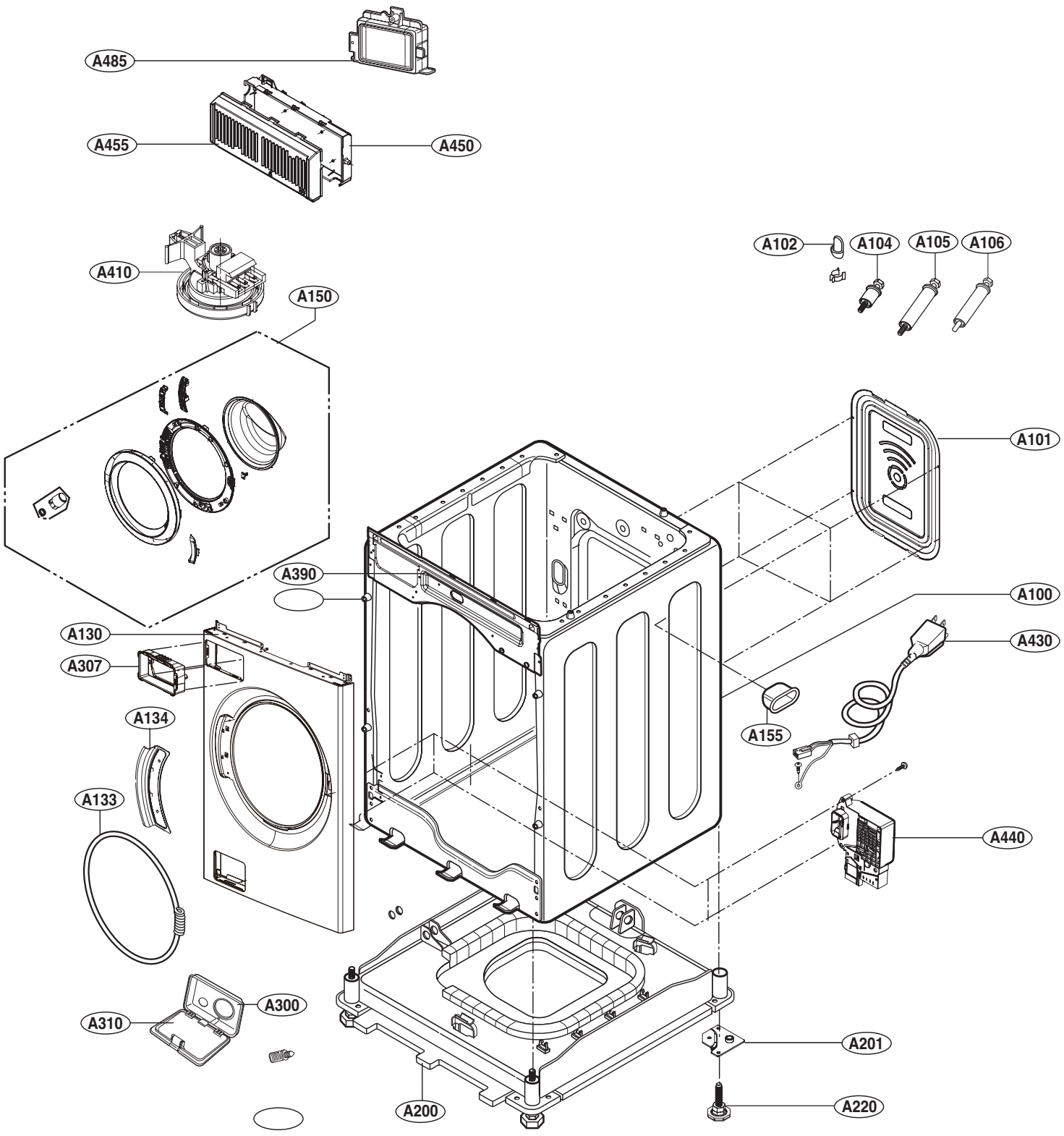
11-4. Drum and Motor Assembly: Gas Type



※ M171: Propane Gas orifice
M170: Natural Gas orifice

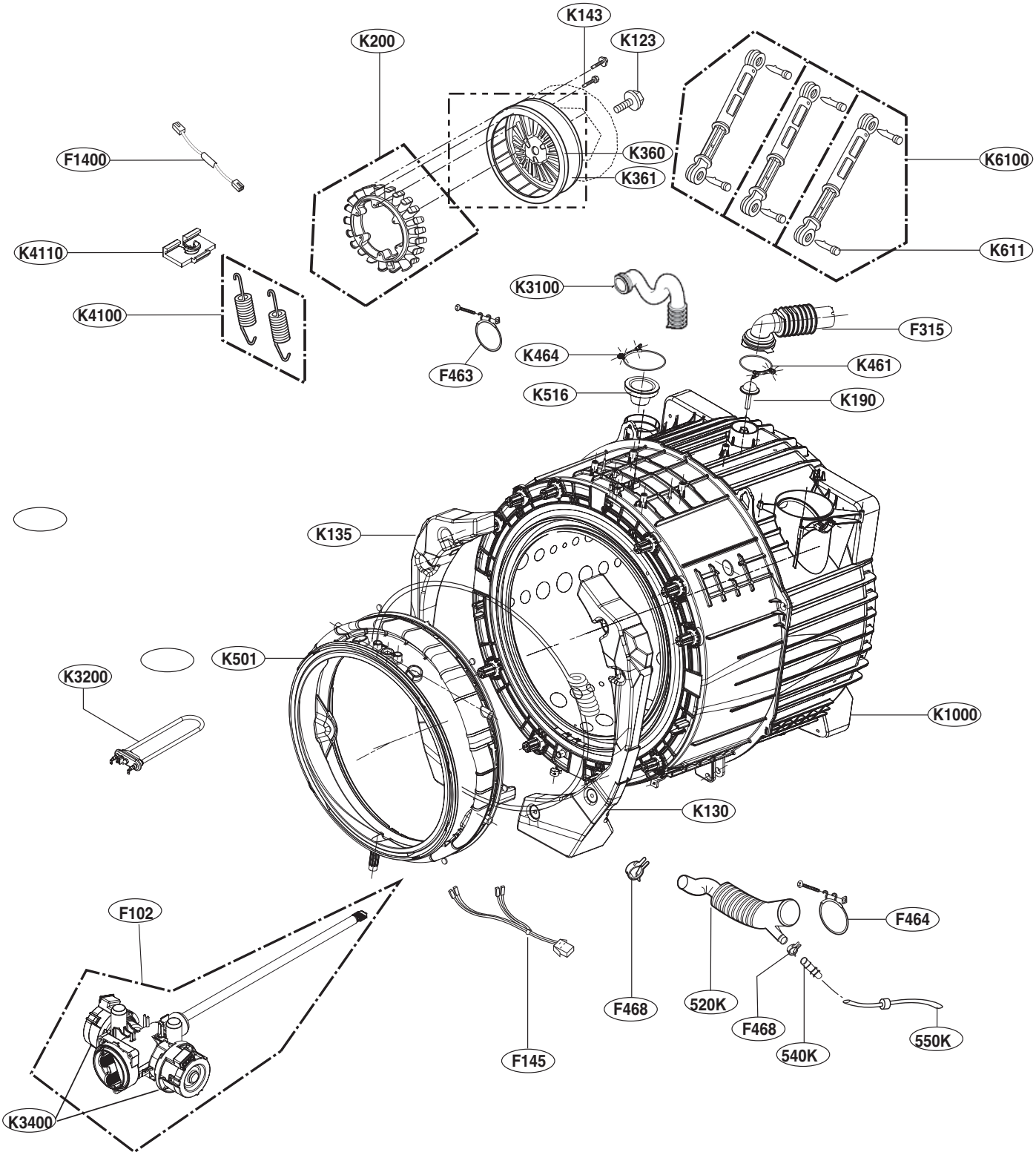
EXPLODED VIEW - WASHER

11-5. Cabinet and Door Assembly: Washer



EXPLODED VIEW - WASHER

11-6. Drum and Motor Assembly: Washer

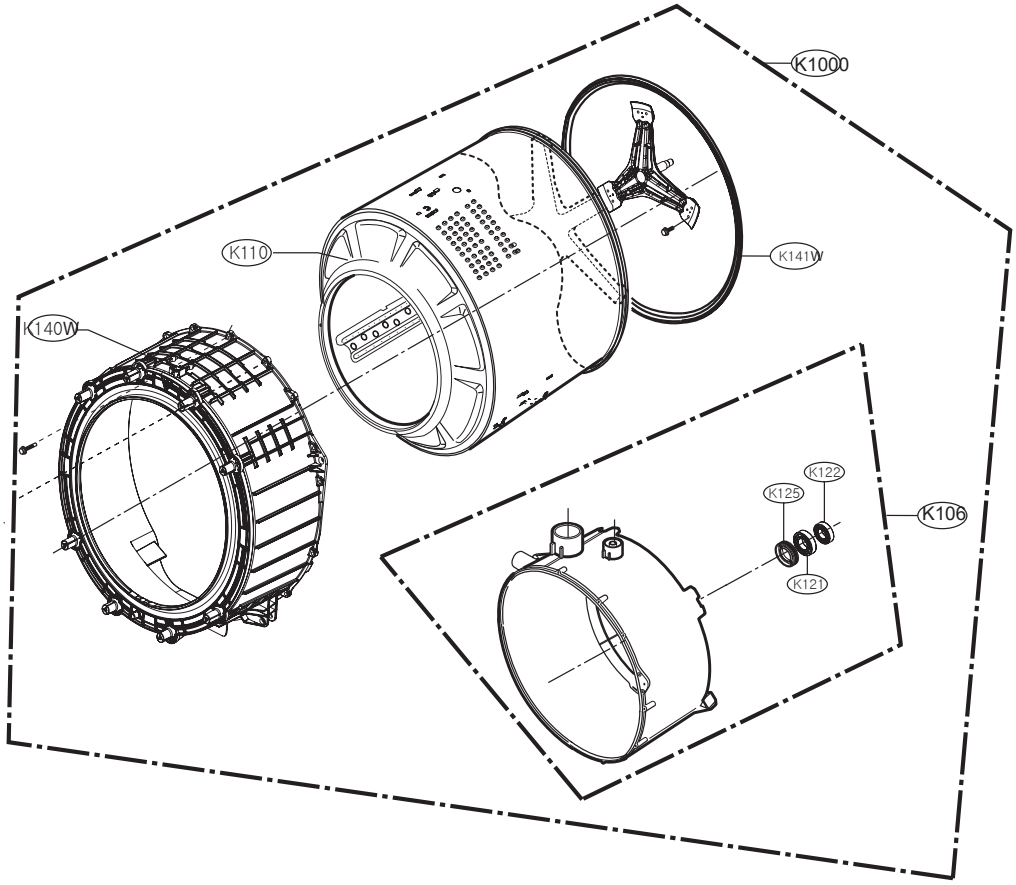


※ In case of replacing THERMISTOR of HEATER ASSEMBLY(K3200), replace HEATER ASSEMBLY(K3200), HEATER ASSEMBLY(K3200) includes THERMISTOR.

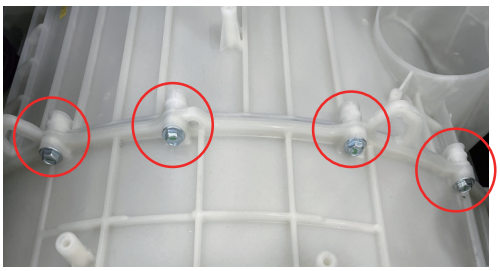
※ In case of replacing BEARING,BALL(K121,K122) and GASKET(K125), replace TUB ASSEMBLY,OUTER(K105), TUB ASSEMBLY,OUTER(K105) includes BEARING,BALL(K121,K122) and GASKET(K125).

※ Part Assembly(K142) includes 10 screws.

* Tub Assembly Bolt type K1000



* Please refer to the picture below and check the Tub tightening type before proceeding with the service.

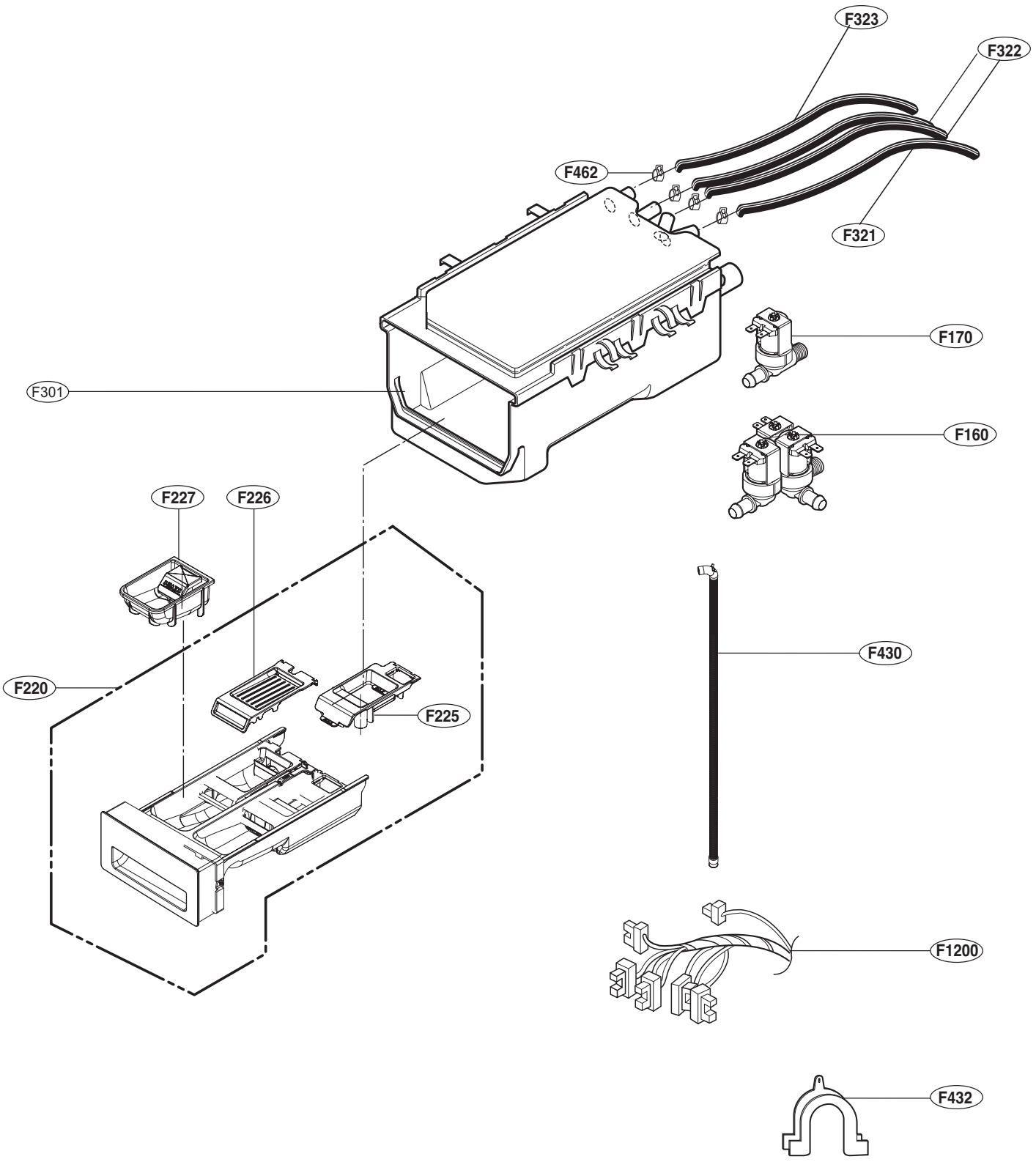


Bolt type

Welding type

EXPLODED VIEW - WASHER

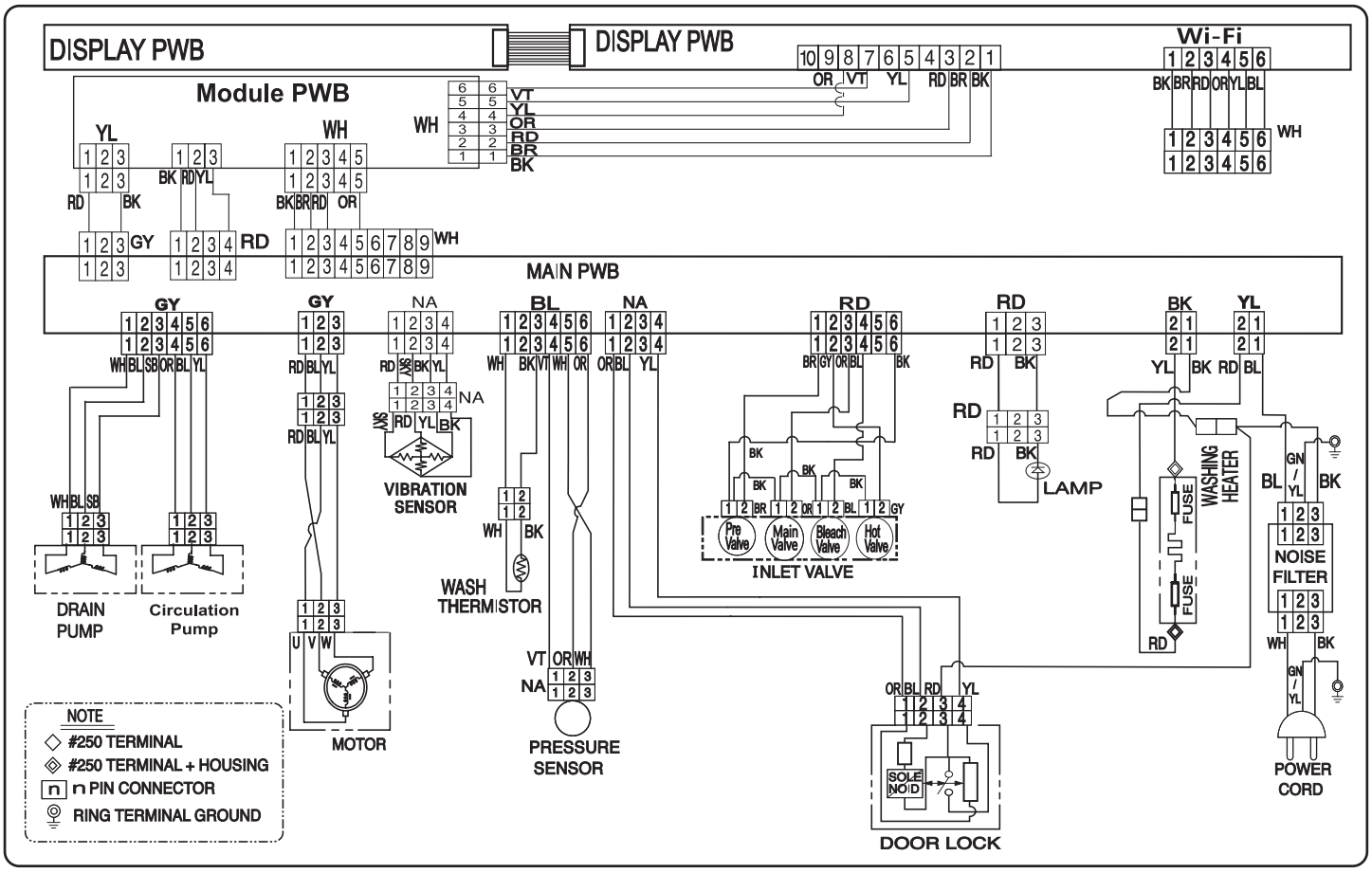
11-7. DISPENSER / CONTROL PANEL ASSEMBLY

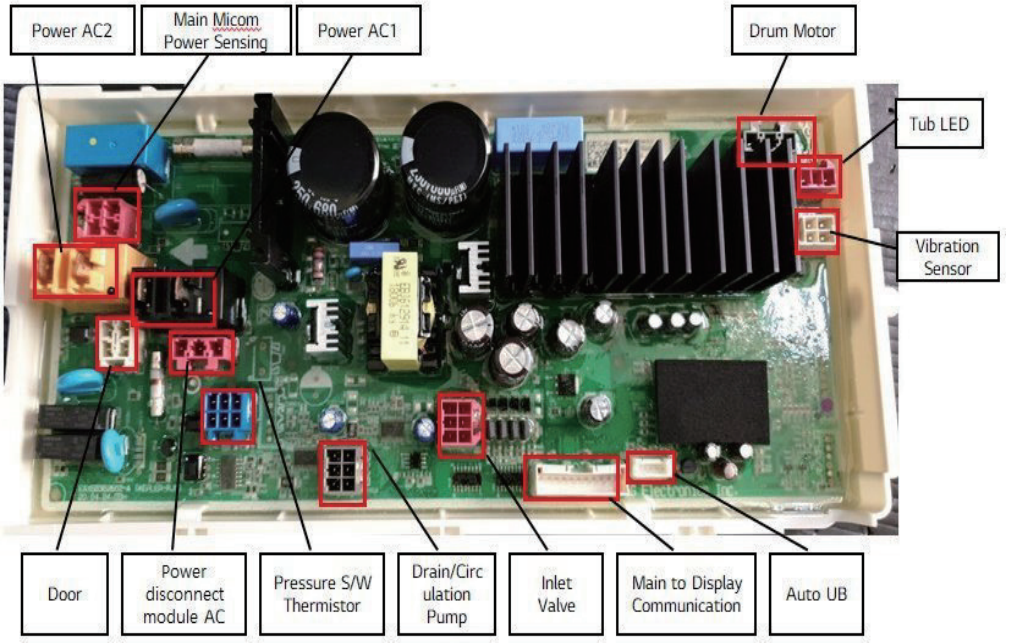


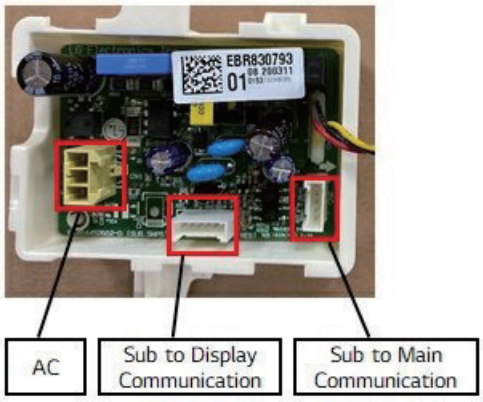
12. WIRING DIAGRAM

* Wiring diagram is located at the bottom of the back of the washer's cabinet cover (Beside the cap cover hole)

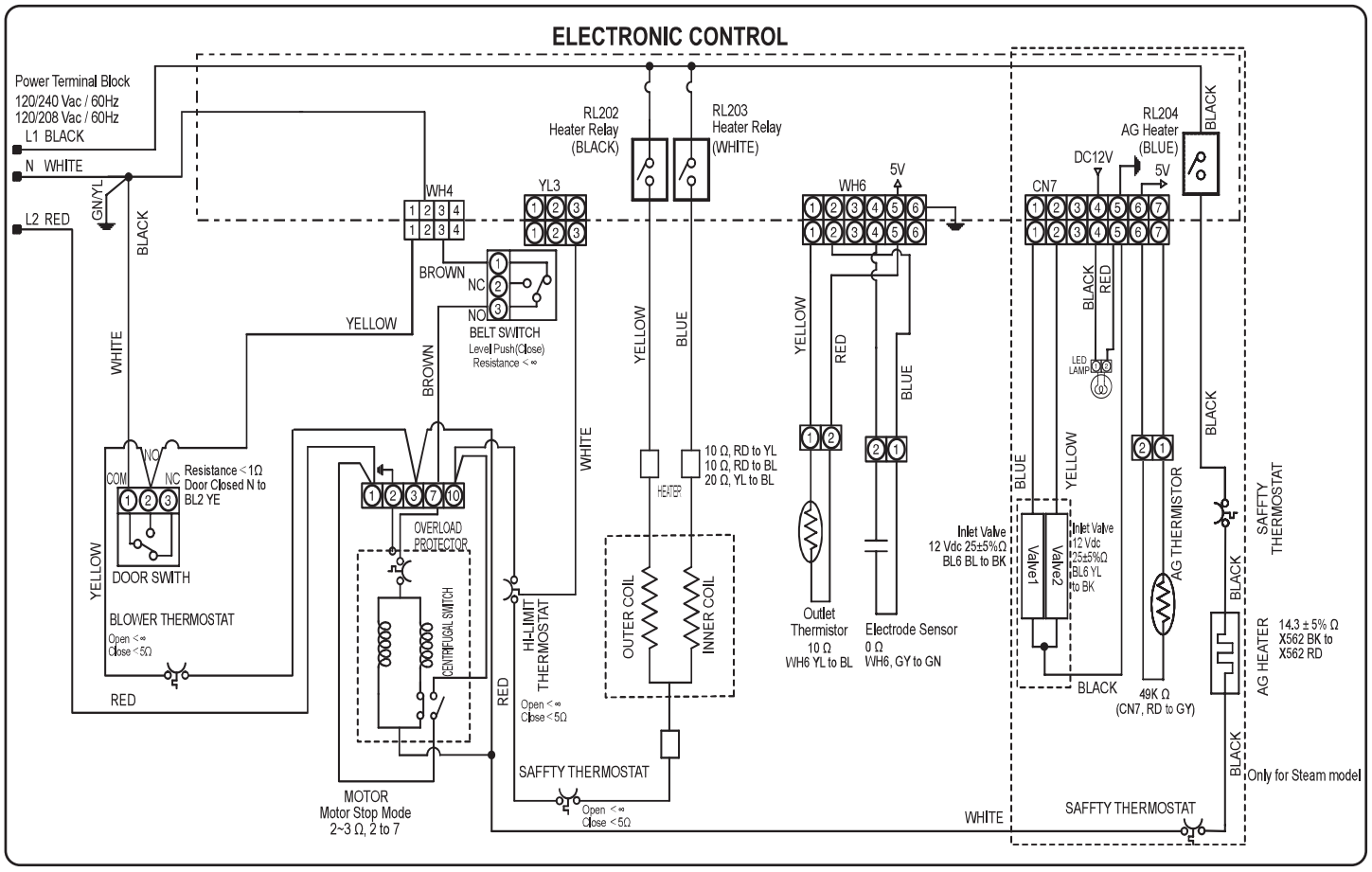
WASHER



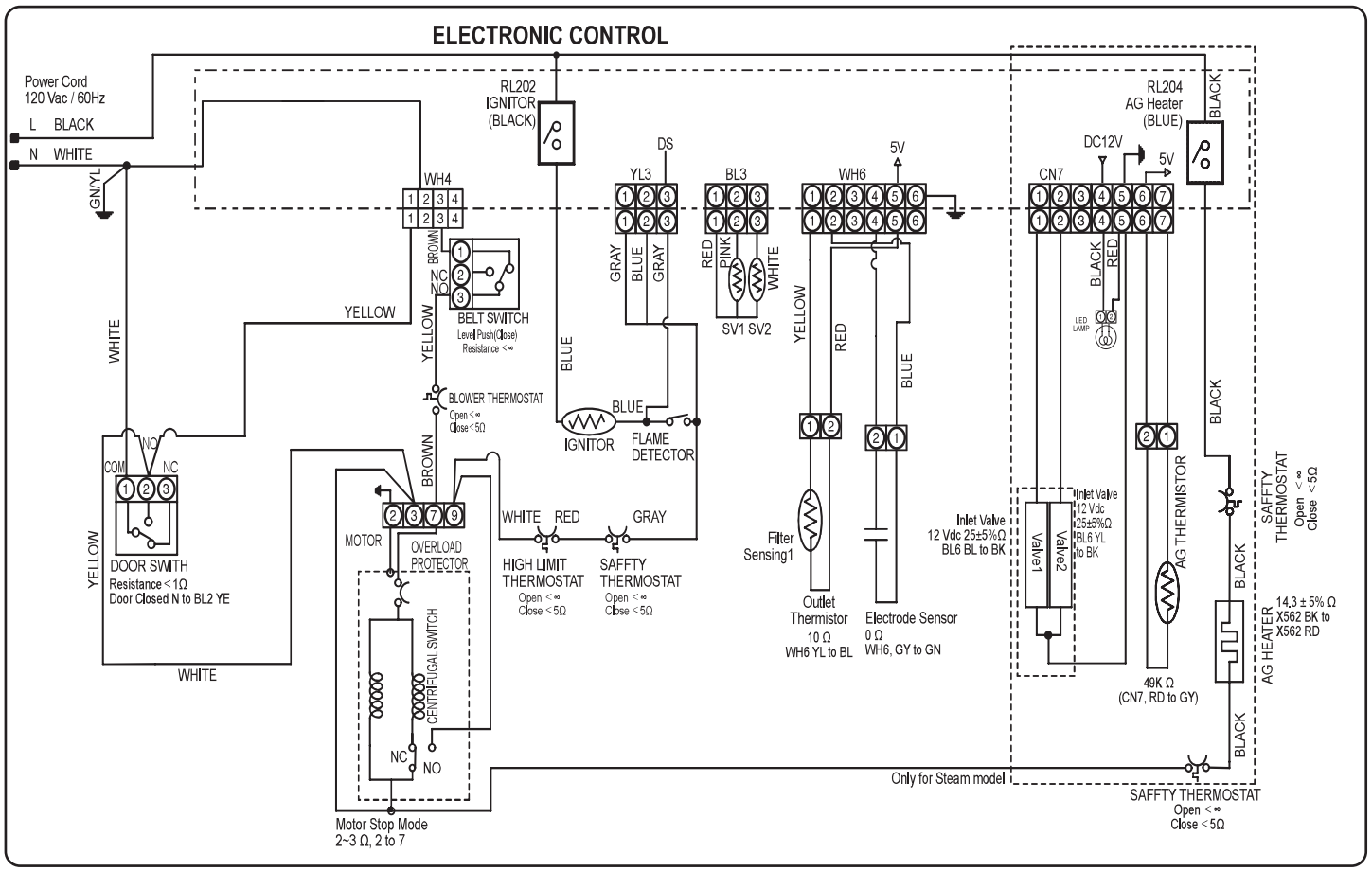




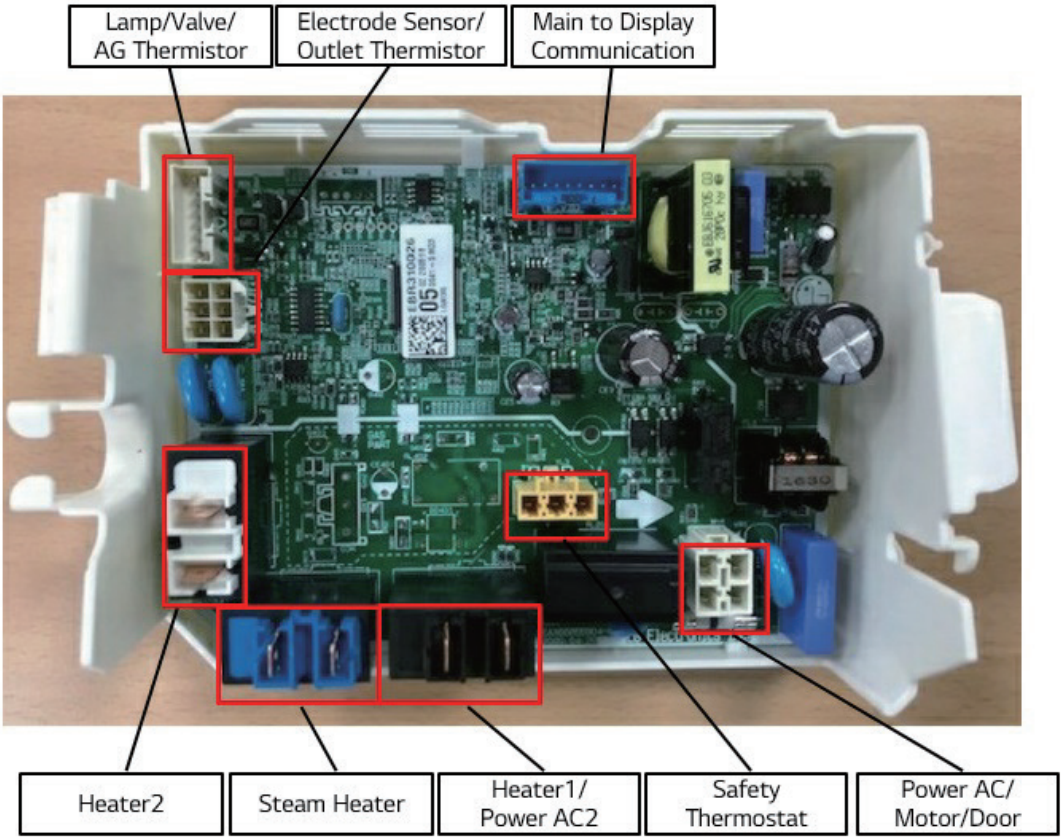
ELECTRIC DRYER



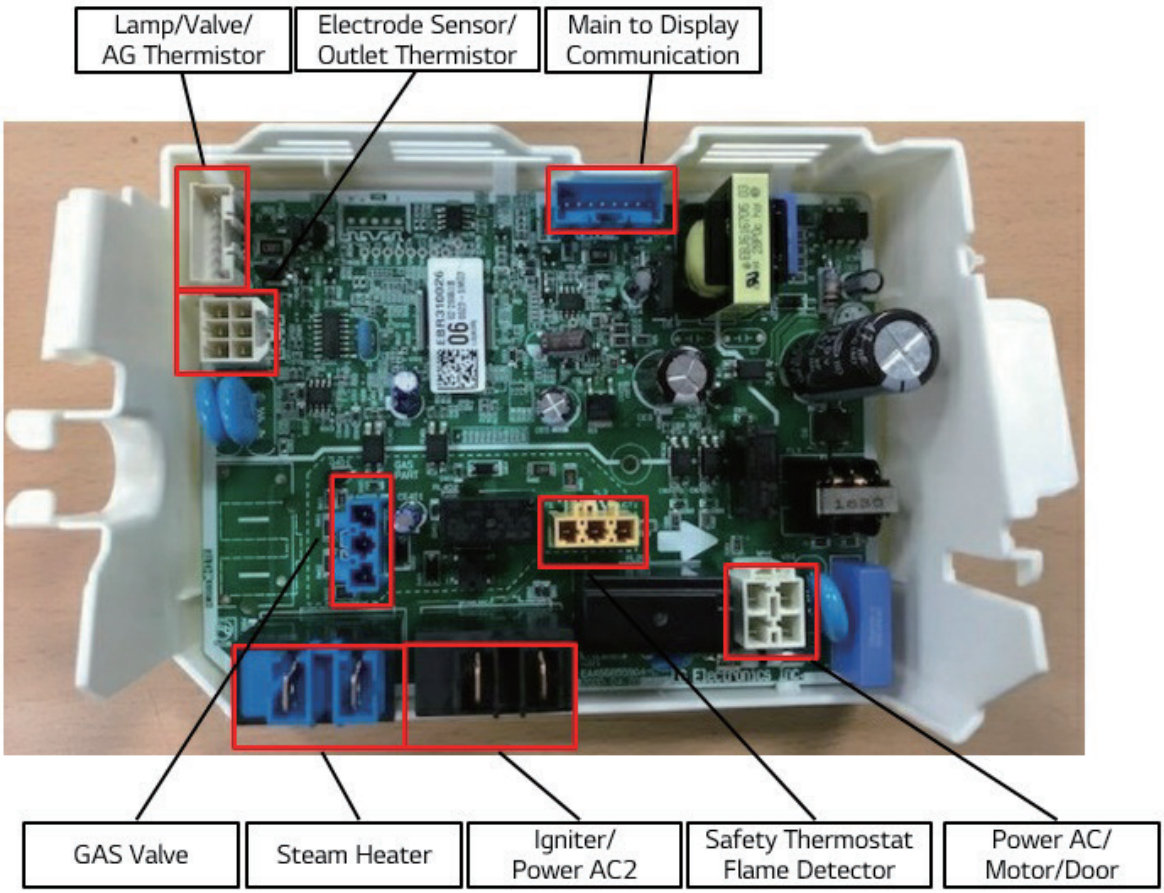
GAS DRYER



ELECTRIC DRYER



GAS DRYER



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