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Canadian Website: <http://lg.ca>

ELECTRIC & GAS DRYER SERVICE MANUAL

CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE
PROBLEMS PROPERLY AND TO PROVIDE
QUALITY SERVICE SAFELY ON THESE DRYERS.

MODEL : DLEX 3570* DLGX 3571*
DLEX 3370* DLGX 3371*

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.

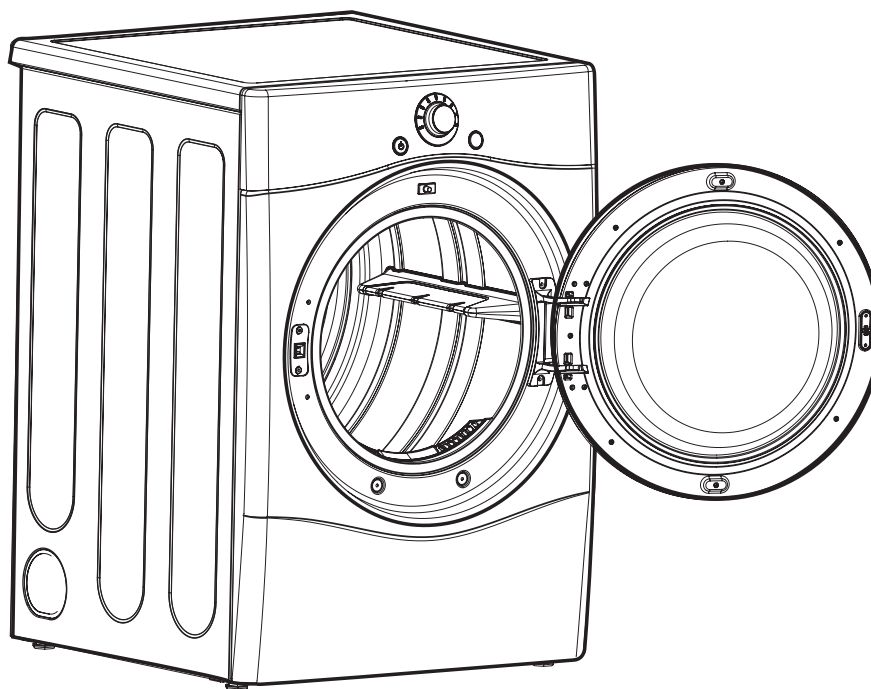
- Before removing the part from its package, touch the anti-static bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging the failed electronic control assembly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

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SPECIFICATIONS



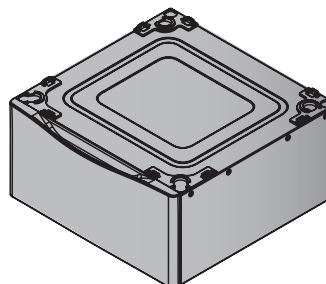
Model	DLEX 3570* DLEX3370*	DLGX3571* DLGX3371*
Name	Electric and Gas Dryer	
Power supply	Please refer to the rating label regarding detailed information	
Size	27" (W) X 30" (D) X 38 ¹¹ / ₁₆ " (H), 51" (D with door open) 68.6 cm (W) X 76.1 cm (D) X 98.3 cm (H), 129.7 cm (D with door open)	
Dryer capacity	- Normal Cycle - Steam Cycle	IEC 7.4 cu.ft. (22.5 lb/10.2 kg) IEC 7.4 cu.ft. (8 lb/3.6 kg)
Weight	137.5 lbs (62.4kg)	

ACCESSORIES



Stacking kit (1 each)
Purchased Separately

See page 7



Pedestal (1 each)
Purchased Separately

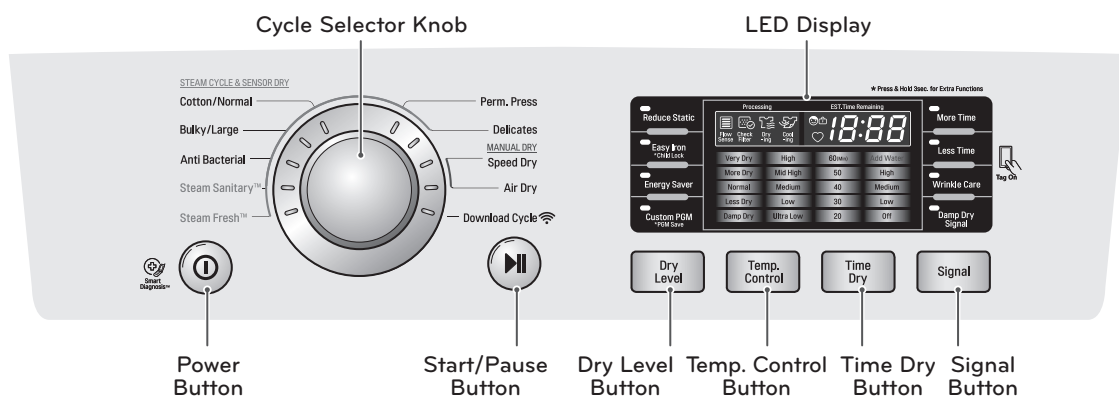
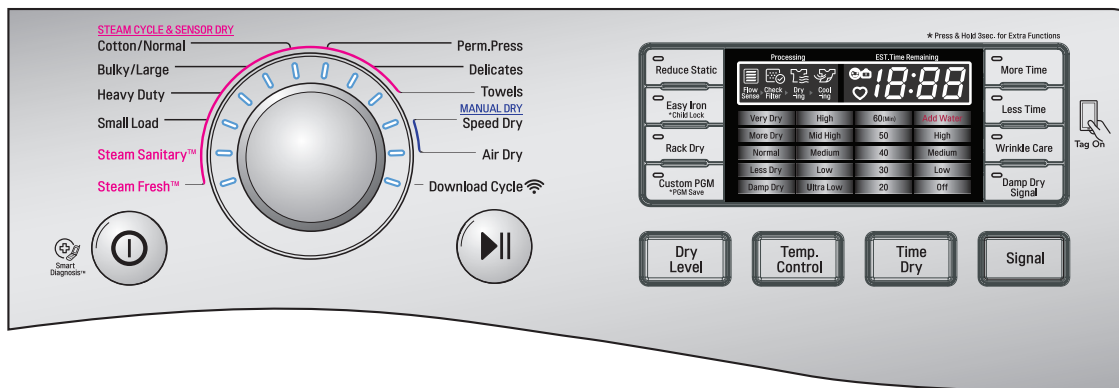
See page 8

ITEM		DLEX 3570* DLGX 3571*		DLEX3370* DLGX3371*	REMARK
Material and Finish	Color	Blue White / Stainless Silver		Blue White / Stainless Silve/ Candy Apple Red	
	Top Plate	Powder coating			
	Door Trim	Chrome			
Power Supply		Elec.	120 V / 240 V / 60 Hz (26 A)		
			120 V / 208 V / 60 Hz (23 A)		
		Gas	120 V / 60 Hz (11.5 A)		
Power Consumption	Motor	250 W (4.5 A)			
	Heater	5400 W (22.5 A)			AC 240 V (Electric Model)
		4100 W (21 A)			AC 208 V (Electric Model)
	Lamp	15 W (0.2 A)			DC 12V
	Gas Valve	13 W (0.11 A) x 2			DC 120V(Gas Model)
	AG Heater	1100 W (9.2 A)			DC 120V(Steam Model)
	Pump	2.4 W (0.15 A)			DC 9V(Steam Model)
Control Type		Electronic			
Drum Capacity		7.4 cu.ft.			
Weight (lbs) - Net/Gross		137.5/157.5			
Number of Programs		12	10		
Number of Dry Options		5			
Number of Temperature Controls		5			
Number of Dry Levels		5			
Sound levels		High / Medium / Low / Off			
Sensor	Moisture	Available			Electrode sensor
	Temperature	Available			Thermistor
Reversible Door		Available			
Drum		Stainless			
Dryer Rack		Available			
Child Lock		Available			
Interior Light		Available			
Product (WxDxH)		27” X 30” X 38 ^{11⁄16} ”			
Packing (WxDxH)		29 ¹ / ₂ ” X 30 ³ / ₄ ” X 44 ³ / ₄ ”			

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FEATURES AND BENEFITS

DLEX 3570* / DLGX3571*
DLEX3370* / DLGX3371*

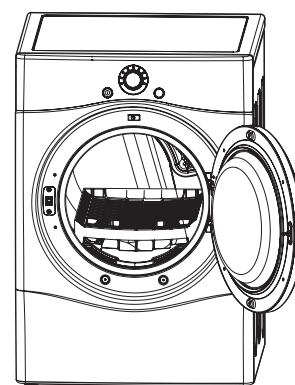
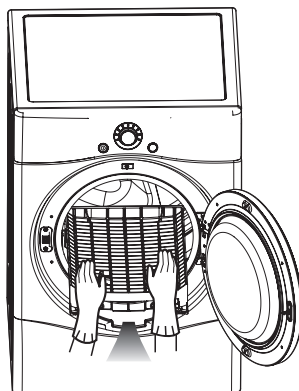
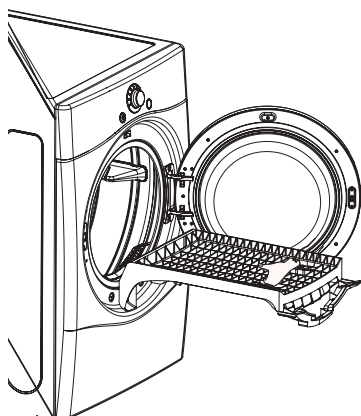


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INSTALLATION INSTRUCTIONS

Dryer Rack Installation Instructions

- 1 Open the door. Hold the dryer rack with both hands.
- 2 Put the dryer rack into the drum
- 3 Check and be sure that the front of the rack is properly seated behind the lint filter.



Stacking Kit Installation Instructions

To ensure safe and secure installation, please observe the instructions below.

WARNING

Do not attempt this alone!

At least two people are required to lift and position the dryer on top of a washing machine!

Failure to heed this warning can result in serious physical injury and damage to the appliance.

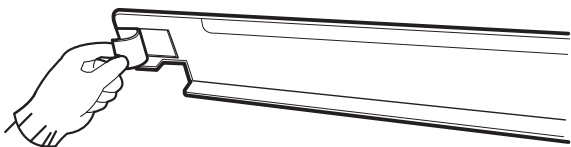
To reduce the risk of Injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.



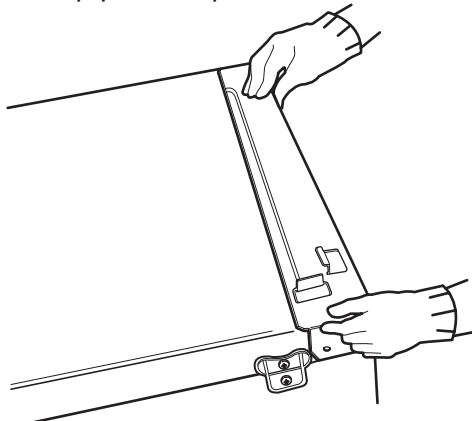
Stacking kit

1 Place the washer firmly on a stable, even and solid floor as product installation instructions describe in the owner's manual.

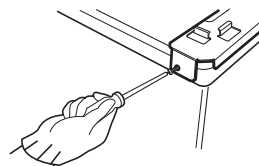
2 Peel the protective paper from the tape on the side bracket.



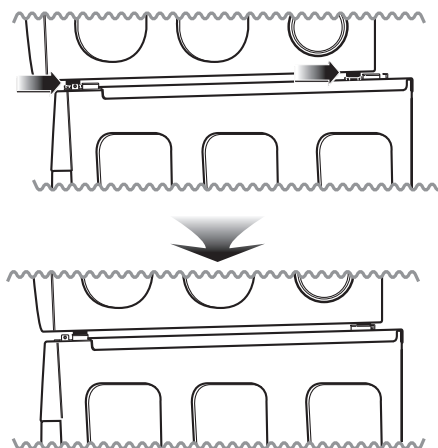
3 Fit the side bracket firmly to the side of the top plate by attaching the double-faced tape to the top plate as picture shown.



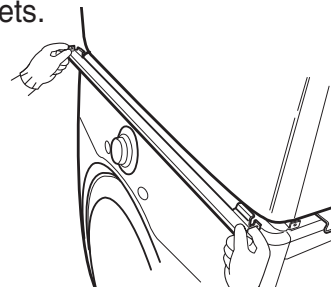
4 Secure the side bracket to the washer with a screw on the back of the bracket. Repeat Steps 2, 3, and 4 for the other side.



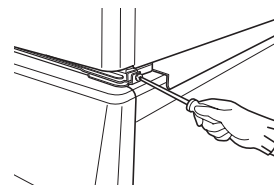
5 Place the dryer on top of the washer by placing the legs as shown. Be careful not to pinch fingers between the washer and dryer. Slide the dryer back against the stop on the side rail.



6 Insert the front rail of the stacking kit. Push the front rail back against the stops on the side brackets.



7 Attach the front bracket to the side rails with a screw on each side.



- Do not use a stacking kit with a gas dryer in potentially unstable conditions like a mobile home.

Pedestal Installation Instructions

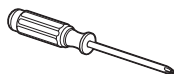
The pedestal accessory includes:

- Drawer divider (1)
- Wrench (1)
- Screws (18) †
- T-clips (4) ††



Tools Needed for Installation:

- Phillips screwdriver
- Wrench (supplied)



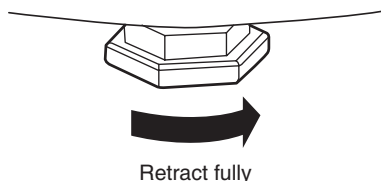
To ensure safe and secure installation, please thoroughly follow the instructions below.

⚠ WARNING

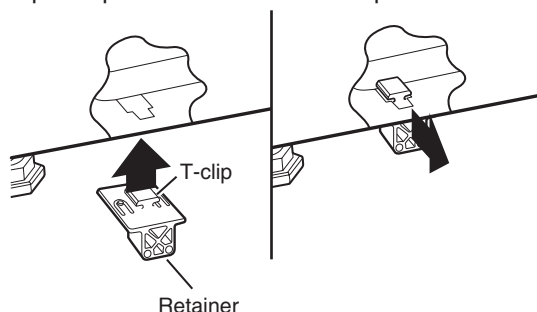
- **Incorrect installation can cause serious accidents.**
- **The appliances are heavy. Two or more people are required when installing the pedestal.** There is a risk of serious back injury or other injuries.
- **Do not allow children to play in or on the drawer.** There is a risk of suffocation or injury.
- **Do not step on the handle.** There is a risk of serious injury.
- **If appliances are already installed, disconnect them from all power, water, or gas lines and from draining or venting connections.** Failure to do so can result in electrical shock, fire, explosion, or death.
- **To reduce the risk of injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.**

- 1 Make sure the leveling feet of the dryer are fully retracted.

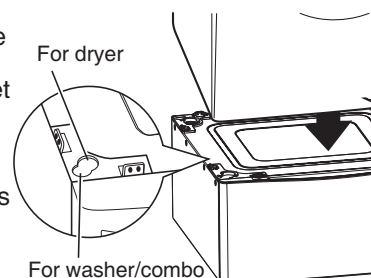
NOTE: The appliance and pedestal assembly must be placed on a solid, sturdy, level floor for proper operation.



- 2 Insert the T-clip of the 4 retainers into the dryer base as shown. Press up on the back of the clip and pull outward to lock into place.



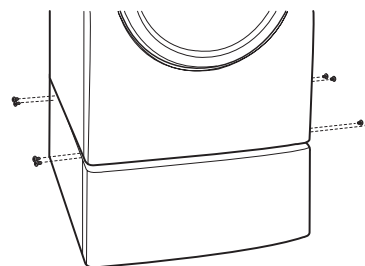
- 3 Place the dryer on the pedestal. Make sure the front and back feet are in the correct positions. The dryer feet will fit into the innermost positions as shown.



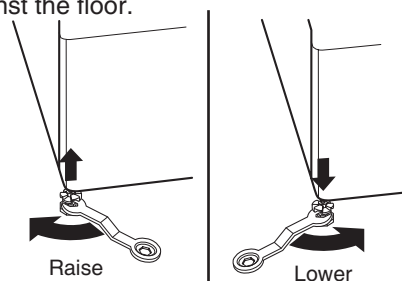
- 4 Make sure the screws on the pedestal align with the holes in the retainers, then install 4 screws on each side to securely attach the appliance to the pedestal.

NOTE: If the screws are not installed properly, noise and vibration may result.

Move the appliance to the desired location.



- 5 Loosen the locknuts on all 4 leveling feet of the pedestal until you can turn them with the wrench. Turn clockwise to raise or counterclockwise to lower until the pedestal is level and all 4 feet are solidly against the floor.

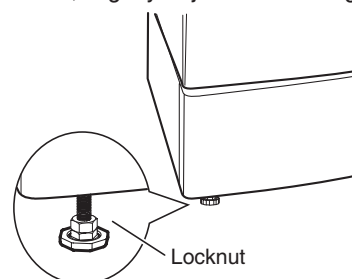


- 6 Securely tighten all locknuts by hand.

NOTE: Noise and vibration may result if locknuts are not tightened.

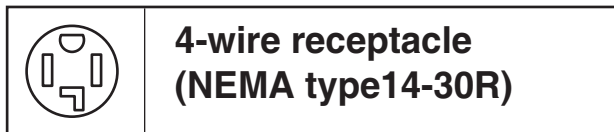
Be sure to connect the appliances to all water, power, or gas lines and draining or venting connections before operation.

If there is excessive vibration during the first operation after installation, slightly adjust the leveling feet.



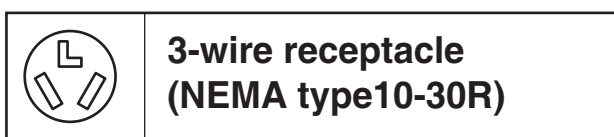
3-1. Connection with a Power Supply Cord.

Review the following options to determine the appropriate electrical connection for your home



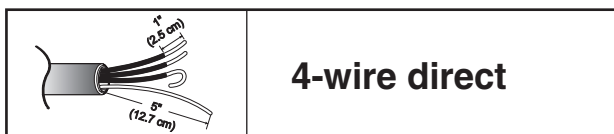
**4-wire receptacle
(NEMA type 14-30R)**

Use the instructions under option 1 if your home has a 4-wire receptacle (NEMA type 14-30R).



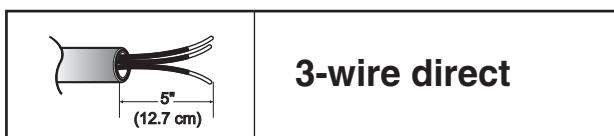
**3-wire receptacle
(NEMA type 10-30R)**

Use the instructions under option 2 or 3 if your home has a 3-wire receptacle (NEMA type 10-30R). Use option 2 if local codes and ordinances permit the connection of a chassis ground to the neutral connector. If this is not permitted, use option 3.



4-wire direct

If this type is available at your home, you will be connecting to a fused disconnect or circuit breaker box



3-wire direct

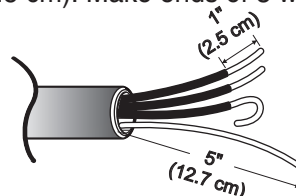
If this type is available at your home, you will be connecting to a fused disconnect or circuit breaker box

4-wire connection : Direct wire

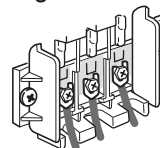
Important : Grounding through the neutral conductor is prohibited for (1) new branch-circuit installations, (2) mobile homes, and (3) recreational vehicles, and (4) areas where local codes prohibit grounding through the neutral conductor.

Prepare minimum 5 ft (1.52 m) of length in order for dryer to be replaced.

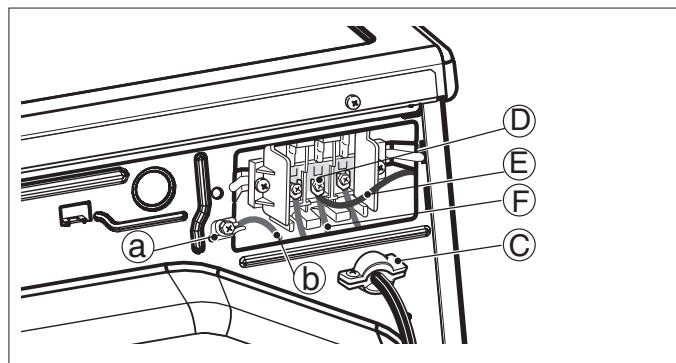
First, peel 5 inch (12.7 cm) of covering material from end. Make a 5 inch of ground wire bared. After cutting 1½ inch (3.8 cm) from 3 other wires, peel insulation back 1 inch (2.5 cm). Make ends of 3 wires a hook shape.



Then, put the hooked shape end of the wire under the screw of the terminal block (hooked end facing rightward) and pinch the hook together and screw tightly.



1. Connect neutral wire (white) of power cord to center terminal block screw.
2. Connect red and black wire to the left and right terminal block screws.
3. Connect ground wire (green) of power cord to external ground screw and move neutral ground wire of appliance and connect it to center screw.
4. Make sure that the strain relief screw is tightened. and be sure that all terminal block nuts are on tight and power cord is in right position.

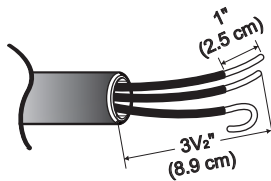


3-wire connection : Direct wire

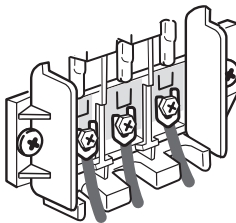
Important : Grounding through the neutral conductor is prohibited for (1) new branch-circuit installations, (2) mobile homes, and (3) recreational vehicles, and (4) areas where local codes prohibit grounding through the neutral conductor.

Prepare minimum 5 ft(1.52 m) of length in order for dryer to be replaced.

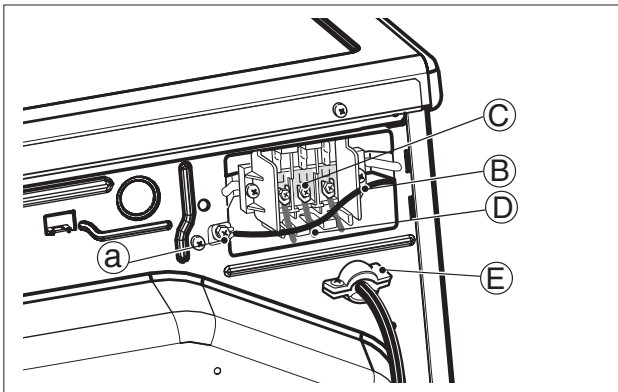
First, peel 3 1/2 inch (8.9 cm) of covering material from end and bare 1 inch from the ends.



Then, put the hooked shape end of the wire under the screw of the terminal block(hooked end facing rightward) and pinch the hook together and screw tightly.

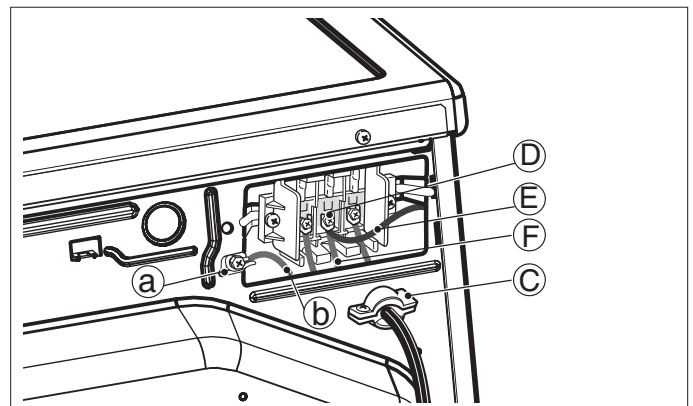
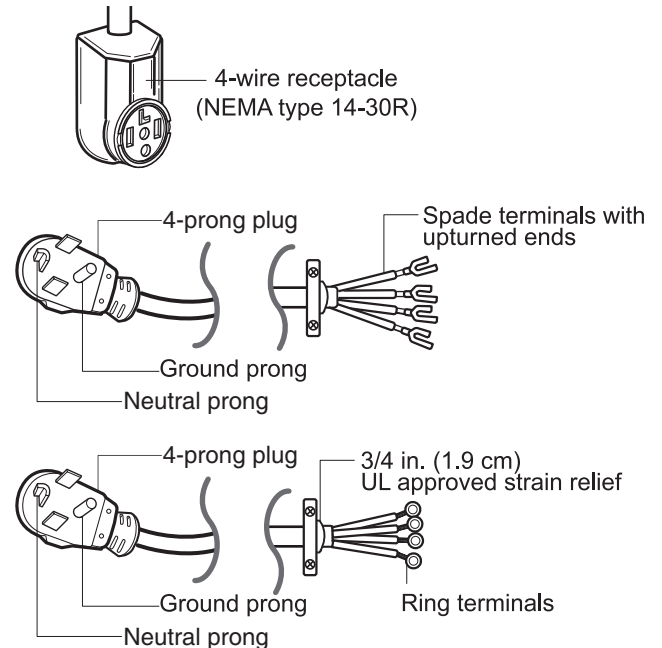


1. Connect neutral wire(white) of power cord to center terminal block screw.
2. Connect red and black wire to the left and right terminal block screws.
3. Make sure that the strain relief screw is tightened and be sure that all terminal block nuts are on tight and power cord is in right position.



Option 1 : 4-wire connection with a power supply cord.

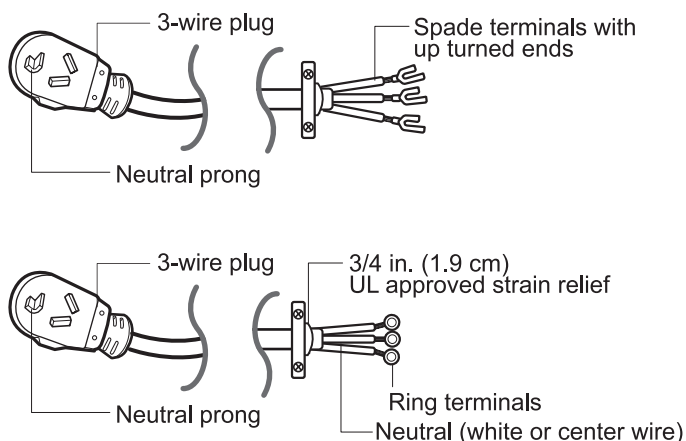
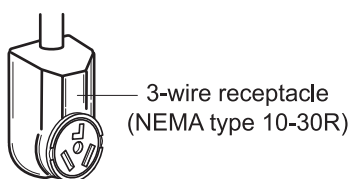
If your local codes or ordinances do not allow the use of a 3 wire connection, or you are installing your dryer in a mobile home, you must use a 4-wire connection.



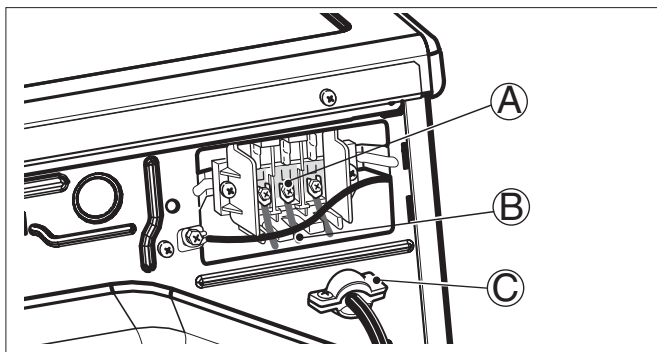
1. Connect the neutral wire (white) of the power cord to the center terminal block screw.
2. Connect the red and black wires to the left and right terminal block screws.
3. Connect the ground wire (green) of the power cord to the external ground screw. Remove the neutral ground wire of appliance and connect it to center screw.
4. Make sure that the strain relief screw is tightened and that all terminal block nuts are tight and the power cord is in the right position.

Option 2: 3-Wire connection with a power supply cord

If your local codes or ordinances permit the connection of a frame-grounding conductor to the neutral wire, use these instructions. If your local codes or ordinances do not allow the connection of a frame-grounding conductor to the neutral wire, use the instructions under **Option 3: Optional 3-wire connection.**

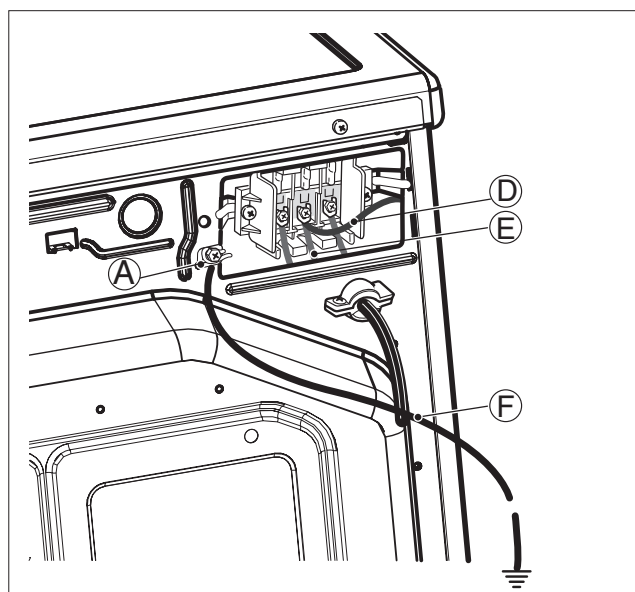
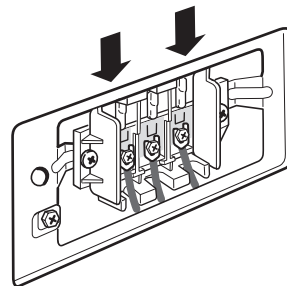


1. Connect the neutral (white or center) wire (B) to the center, silver colored screw (A) and tighten securely.
2. Connect the other two power cord wires (red and black) to the left and right terminal block screws and tighten securely.
3. Tighten the strain relief screws (C) securely.



Option 3: Optional 3-wire connection.

- If your local codes or ordinances do not allow the connection of a frame-grounding conductor to the neutral wire, use the instructions under this section.

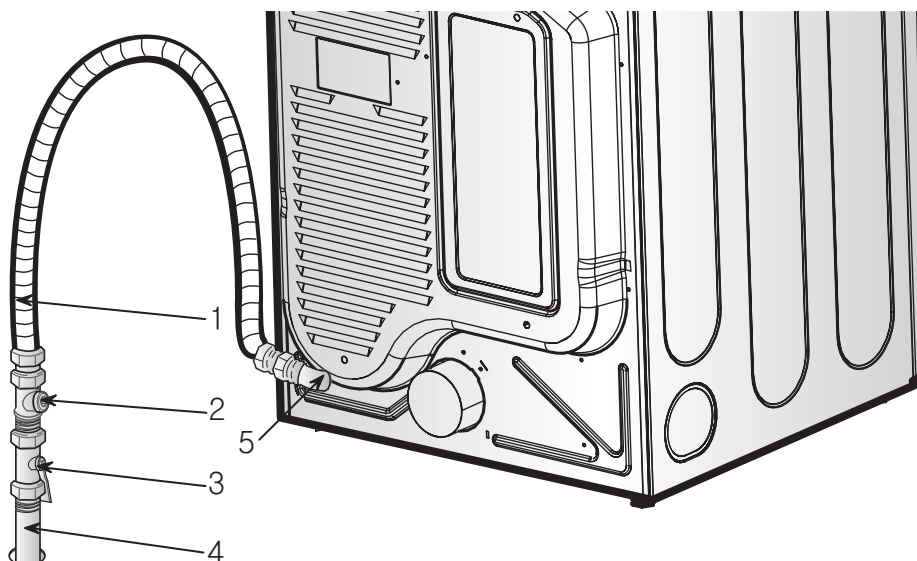


1. Remove the appliance ground wire (D) (green) from the external ground connector screw and reconnect it, together with the center, white, neutral wire (E) to the center, silver colored, terminal block screw.
2. Connect the other two power cord wires (red and black) to the left and right terminal block screws and tighten securely.
3. Tighten the strain relief screws securely.
4. Connect an independent ground wire (F) from the external ground connector screw to a proper ground. (The ground wire must be long enough to allow the appliance to be moved, if necessary, for service or cleaning.)

3-2. Connect Gas Supply Pipe

For further assistance, refer to section on **Gas Requirements**.

1. Make certain your dryer is equipped for use with the type of gas in your laundry room. Dryer is equipped at the factory for Natural Gas with a $\frac{3}{8}$ " NPT gas connection.
2. Remove the shipping cap from the gas connection at the rear of the dryer. Make sure you do not damage the pipe thread when removing the cap.
3. Connect to gas supply pipe using a new flexible stainless steel connector.
4. Tighten all connections securely. Turn on gas and check all pipe connections (internal and external) for gas leaks with a non-corrosive leak detection fluid.
5. For LP (Liquefied Petroleum) gas connection, refer to section on Gas Requirements.



- | | |
|---|--|
| 1 New Stainless Steel Flexible Connector – Use only if allowed by local codes (Use Design A.G.A. Certified Connector) | 4 Black Iron Pipe
Shorter than 20' (6.1 m) – Use $\frac{3}{8}$ " pipe
Longer than 20' (6.1 m) – Use $\frac{1}{2}$ " pipe |
| 2 $\frac{1}{8}$ " NPT Pipe Plug
(for checking inlet gas pressure) | 5 $\frac{3}{8}$ " NPT Gas Connection |
| 3 Equipment Shut-Off Valve—Installed within 6' (1.8 m) of dryer | |

DLEX3470* / DLGX3471*

Cycle		Default			Conditions of operation and termination				
		Temp-erature	Dry Level	Display time	Drying		Cooling		Wrinkle care
					Electro-sensor	Temp-Control	Default time	Temp-Control**	Time
Sensor Dry *	STEAM FRESH™	MID HIGH	OFF	20 min ADJUSTABLE	Saturation	66±4°C	5 min	45±5°C	3 Hr
	STEAM SAINTARY™	HIGH	OFF	39 min	Saturation	68±4°C	5 min	45±5°C	
	BULKY / LARGE	MEDIUM	NORMAL ADJUSTABLE	55 min	Saturation	60±4°C	5 min	45±5°C	
	HEAVY DUTY	HIGH	NORMAL ADJUSTABLE	54 min	Saturation	68±4°C	5 min	45±5°C	
	PERM PRESS CASUAL	LOW	NORMAL ADJUSTABLE	32 min	Saturation	52±3°C	5 min	45±5°C	
	COTTON / NORMAL	MEDIUM	NORMAL ADJUSTABLE	41 min	Saturation	60±4°C	5 min	45±5°C	
	DELICATES	LOW	NORMAL ADJUSTABLE	28 min	Saturation	52±3°C	5 min	38±5°C	
	TOWELS	MID HIGH	NORMAL ADJUSTABLE	55 min	Saturation	66±4°C	5 min	45±5°C	
	SMALL LOAD	HIGH	NORMAL ADJUSTABLE	30 min	Saturation	68±4°C	5 min	45±5°C	
Manual Dry **	SPEED DRY	HIGH	OFF	25 min	Saturation	(68±5°C)	5 min	(47±5°C)	3 Hr
	AIR DRY	NO HEAT	OFF	30 min	Saturation	(66±5°C)	5 min		
Load		Motor							Off Time: 6 min On Time: 10 sec
		Heater			Temperature Control for each cycle 				

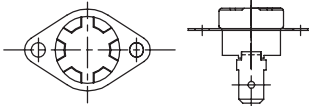
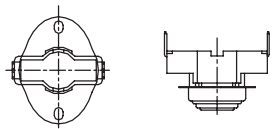
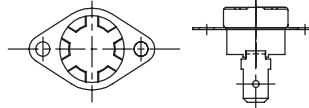
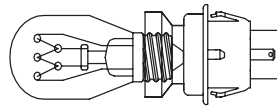
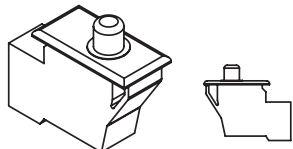
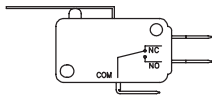
*Sensor dry : Dry Level is set by users.

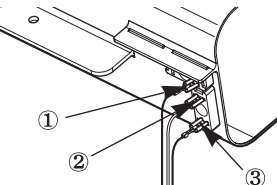
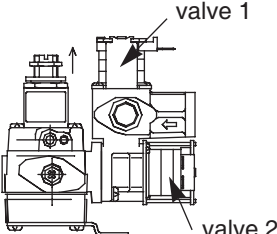
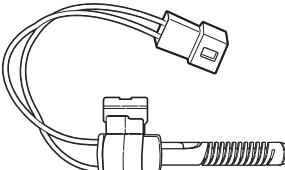
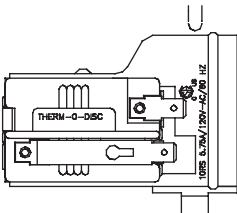
**Manual dry : Temperature control is set by users.

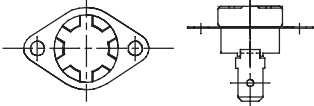
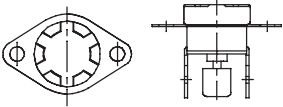
Default settings can be adjusted by users.

**CAUTION**

When checking components, turn the power off and discharge voltage.

Component	Test Procedure	Check result	Remark
1. Thermal cut off  • Check Top Marking: N140	Measure resistance of terminal to terminal ① Open at $284 \pm 9^{\circ}\text{F}$ ($140 \pm 5^{\circ}\text{C}$) Same shape as outlet thermostat.	If thermal fuse is open must be replaced ① Resistance value $\div \infty$ ② Continuity ($250^{\circ}\text{F} \downarrow$) $< 1\Omega$	• Heater case-Safety • Electric type
2. Hi limit Thermostat (Auto reset) 	Measure resistance of terminal to terminal ① Open at $257 \pm 9^{\circ}\text{F}$ ($125 \pm 5^{\circ}\text{C}$) ② Close at $201 \pm 12^{\circ}\text{F}$ ($94 \pm 7^{\circ}\text{C}$)	① Resistance value $\div \infty$ ② Resistance value $< 5\Omega$	• Heater case - Hi limit • Electric type
3. Outlet Thermostat (Auto reset)  • Check Top Marking: N85	Measure resistance of terminal to terminal ① Open at $185 \pm 9^{\circ}\text{F}$ ($85 \pm 5^{\circ}\text{C}$) Same shape as thermal cut off.	① Resistance value $\div \infty$ ② Resistance value $< 5\Omega$	• Blow housing - Safety
4. Lamp holder 	Measure resistance of terminal to terminal	Resistance value: $80\Omega \sim 100\Omega$	
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 $< 1\Omega$ ② Resistance value $\div \infty$ ① Resistance value $\div \infty$ ② Resistance value $< 1\Omega$	
6. Idler switch 	Measure resistance of the following terminal: COM - NC	1. Lever open ① Resistance value $< 1\Omega$ 2. Lever push (close) ② Resistance value $\div \infty$	

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: $58^{\circ}\text{F} \sim 104^{\circ}\text{F}$ ($10\sim 40^{\circ}\text{C}$)	Resistance value: 10Ω	- Heater case - Hi limit - Electric type
9. Motor			See Page 17
10. Gas valve 	Measure resistance of the following terminal ① Valve 1 terminal ② Valve 2 terminal	Resistance value: $> 1.5\sim 2.5\text{ k}\Omega$	Gas type
11. Igniter 	Measure resistance of terminal to terminal	Resistance value: $50\sim 800\Omega$	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 $\div \infty$ ② Resistance value $< 1\Omega$	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 $203 \pm 41^{\circ}\text{F}$ ($95 \pm 5^{\circ}\text{C}$) ② Close at $158 \pm 41^{\circ}\text{F}$ ($70 \pm 5^{\circ}\text{C}$)	① Resistance value $\neq \infty$ ② Continuity $< 1\Omega$	• Gas type • Gas funnel
14. Outlet Thermostat (Manual reset)  • Check Top Marking: N110	Measure resistance of terminal to terminal ① Open at $230 \pm 41^{\circ}\text{F}$ ($110 \pm 5^{\circ}\text{C}$) ② Manual reset	① Resistance value $\neq \infty$ ② Continuity $< 1\Omega$	• Gas type • Gas funnel

6

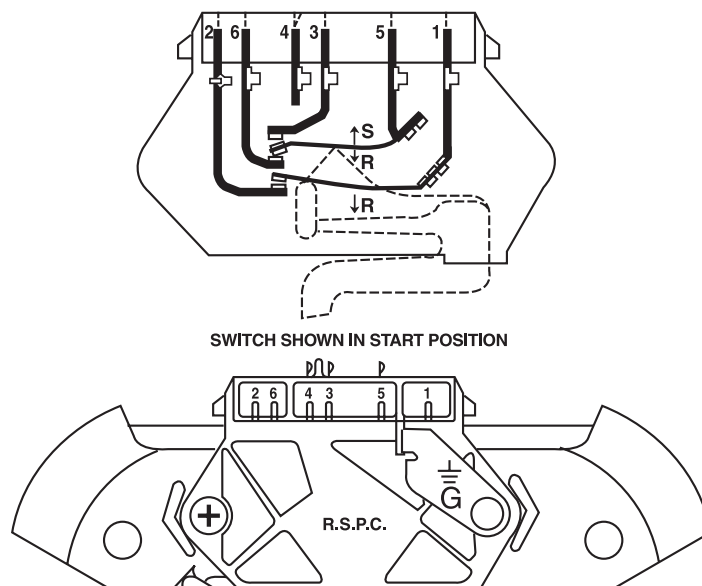
MOTOR DIAGRAM AND SCHEMATIC

NOTE When checking components, turn the power off and discharge voltage.

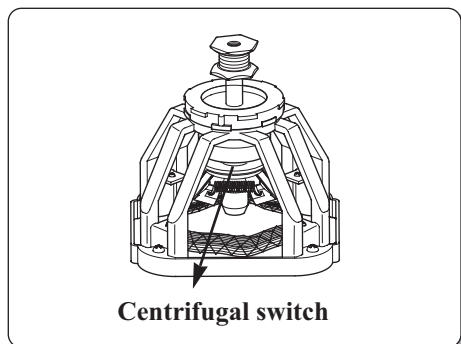
■ Contact On / Off by Centrifugal Switch

Terminal No		①	②	③	④	⑤	⑥	Remark
Mode	Resistance							
Motor STOP	2 ~ 3Ω				●————●			Motor
	≒ ∞	●·····●						Heater (Electric Models)
	≒ ∞			●·····●				Gas Valve (Gas Models)
Motor RUN	3 ~ 5Ω				●————●			Motor
	< 1Ω	●————●						Heater (Electric Models)
	< 1Ω			●————●				Gas Valve (Gas Models)

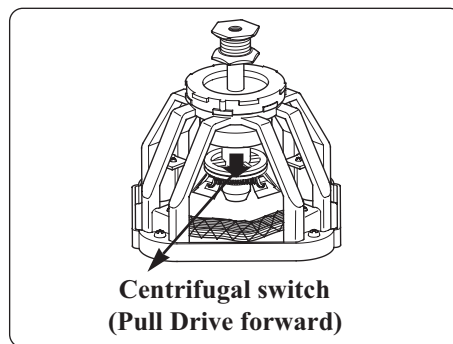
..... Open
—— Close



■ STOP MODE
(When Motor does not operate)

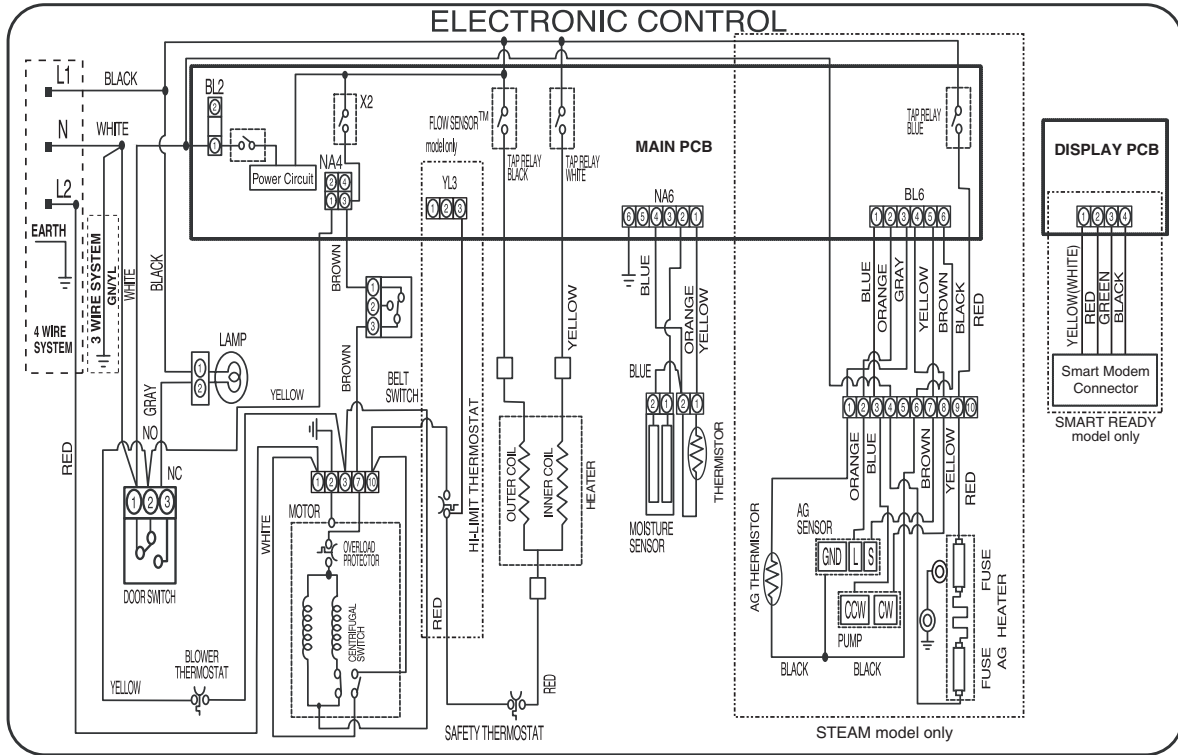


■ RUN MODE
(Motor operates)

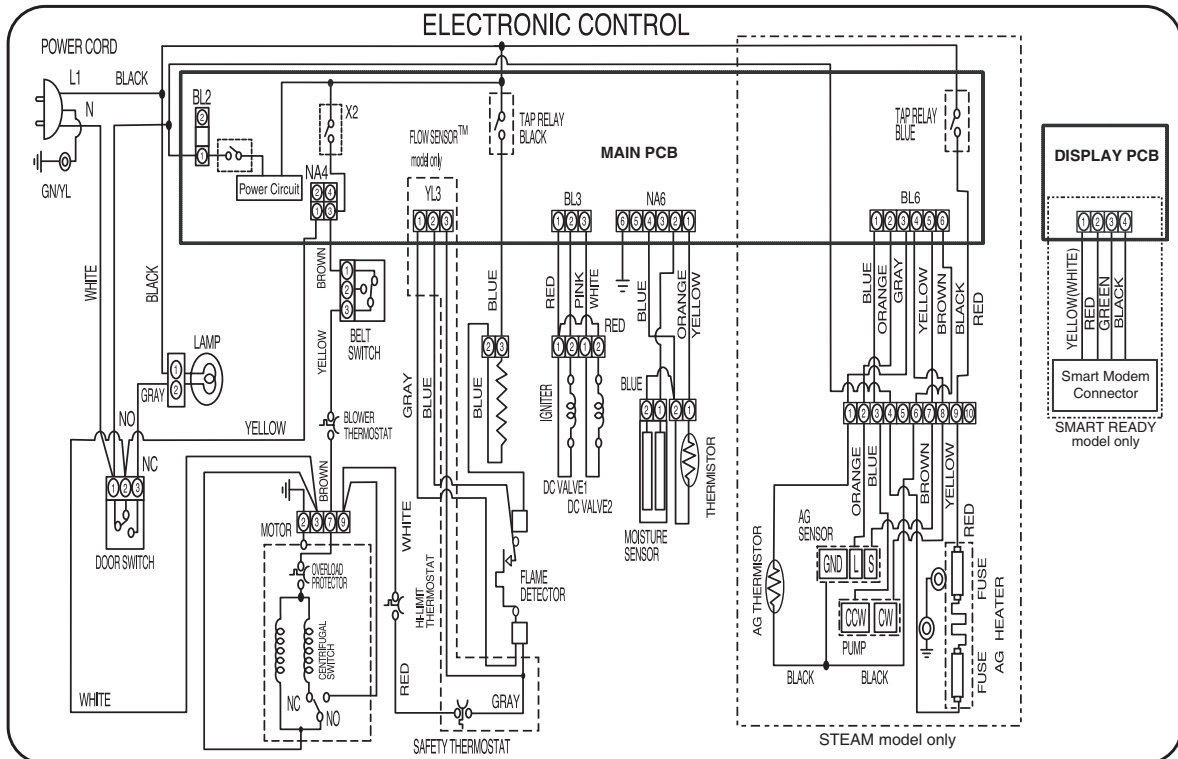


ELECTRIC DRYER WIRING DIAGRAM

- POWER CORD
 3 WIRE SYSTEM : L1, L2, N (EARTH)
 4 WIRE SYSTEM : L1, L2, N, EARTH



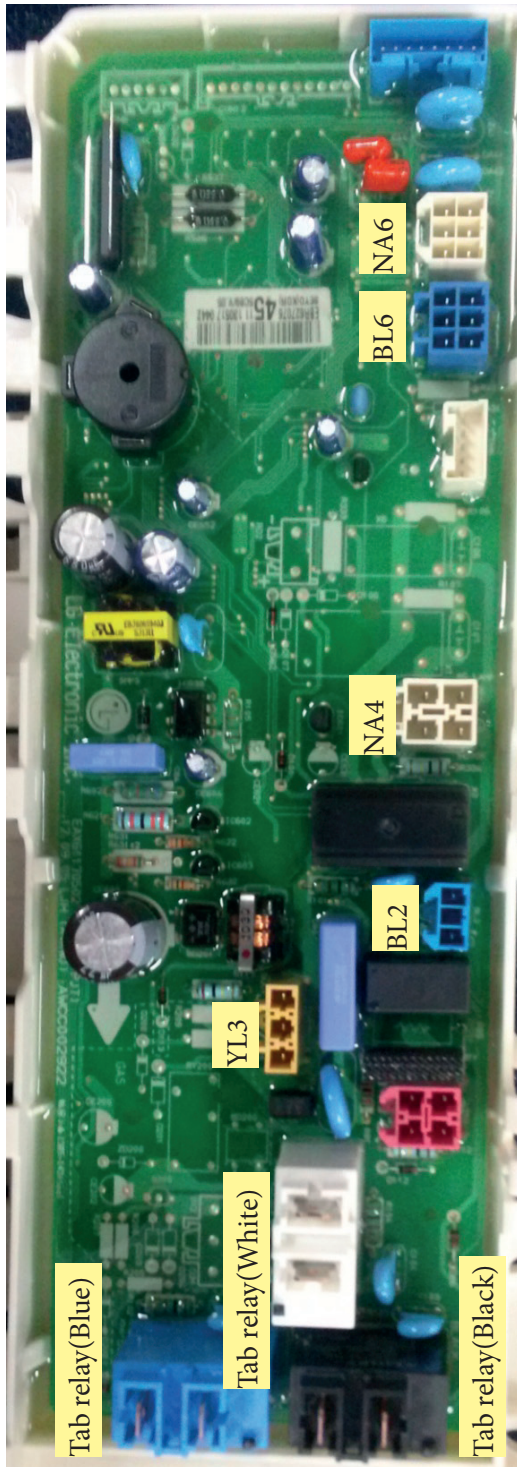
GAS DRYER WIRING DIAGRAM



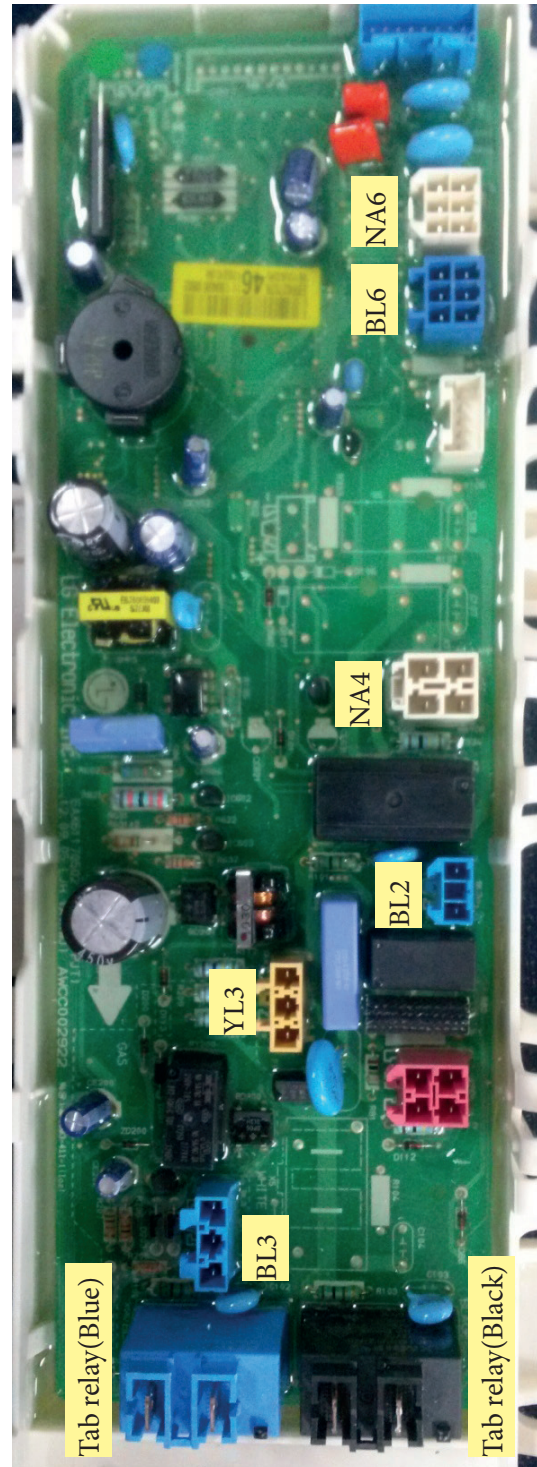
Main PCB Picture

(P/N : EBR62707645(Electric)
EBR62707646(Gas))

<Electric>



<Gas>



8-1. Steam Cycle Guide

	STEAM	DEFAULT TIME	TEMP. CONTROL	DRY LEVEL	FABRIC STATE	FABRIC TYPE	MAXIMUM AMOUNT
STEAM SANITARY™		STEAM SANITARY™ (39 minutes)			Dry	Comforter Bedding	Single (1 each)
						Children's clothing	3 lbs.
STEAM FRESH™		STEAM FRESH™ (20 minutes)	O		Dry	Comforter	Single (1 each)
						Shirts*	5 each
	+ REDUCE STATIC	STEAM FRESH™ (10 minutes)			Dry	Shirte*	8 lbs. (18 Items.)
	+ EASY IRON	STEAM FRESH™ (12 minutes)			Dry	Shirte*	Shirts* (5 each)
STEAM OPTION	+ REDUCE STATIC	HEAVY DUTY COTTON/TOWELS NORMAL PERM.PRESS DELICATES		O	Wet	Varies by selected cycle	8 lbs. (18 Items.)
	+ EASY IRON			O	Wet	Varies by selected cycle	Shirts* (5 each)
TIME DRY	+ REDUCE STATIC	TIME DRY (45 minutes)	O		Wet	Varies by selected	8 lbs. (18 Items.)
	+ EASY IRON	TIME DRY (47 minutes)	O		Wet	Varies by selected	Shirts* (5 each)

*Shirt: 70% cotton/30% poly blend. Except especially delicate fabrics.

IMPORTANT NOTES ABOUT STEAM CYCLES:

- The steam feeder must be filled with water up to the MAX line. Otherwise, an error message will be displayed.
- If the lint filter or exhaust duct is clogged, the steam options will not give proper results.
- For best results, load articles of similar size and fabric type.
Do not overload.
- Water only - Do not add any additives or other materials as these will damage your dryer.
- Before moving the dryer, make sure the steam feeder is empty.
- Best results are obtained with cotton/poly blend fabrics.

8-2. Troubleshooting

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
 indicator lights is on during the drying cycle	Water supply error.	- Check steam feeder drawer: (1) Make sure steam feeder is filled with water to MAX line. (2) Make sure steam feeder is seated properly and drawer is fully closed. (3) Turn the dryer off then restart the steam cycle. - Do not use distilled water; the water level sensor in steam generator will not work. - Pump not working. Unplug dryer and call for service.
Water drips from nozzle when steam cycle starts.	This is normal.	This is steam condensation. The dripping water will stop after a short time.
Steam doesn't generate but no error code is shown.	Water level error.	Unplug dryer and call for service.
Garments still wrinkled after STEAM FRESH™.	Too many or too different types of garments in dryer.	- Small loads of 1 to 5 items work best. - Load fewer garments. Load similar-type garments.
There are no creases left on garment after STEAM FRESH™.	The function of this cycle is to remove wrinkles from fabric.	Use an iron to make creases.
Garments have static after REDUCE STATIC.	This is normal.	Depends on individual moisture level in skin.
Garments are too damp or too dry after REDUCE STATIC.	Correct drying options not selected.	Select load weight manually before starting REDUCE STATIC option.
Garments are not uniformly damp after EASY IRON.	This is normal.	Depends on the amount or type of garments.
Water drips from door during steam cycle.	This is normal.	This is steam condensation on door surface.
Steam is not visible during steam cycle.	This is normal.	Steam vapor is difficult to see when the door is closed.
Drum does not turn during steam cycle.	This is normal.	The drum is turned off so that the steam vapor remains in the drum.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Cannot see steam vapor at the beginning of cycle.	This is normal.	Steam is released at different stages of the cycle for each option.
The display shows: <i>bl 9</i>	MORE TIME pressed.	Pressing the MORE TIME button adjusts the load size from 1 to 5 articles or a big load indicated by <i>bl 9</i> in the display.
Odors remain in clothing after STEAM FRESH™.	STEAM FRESH™ did not remove odor completely.	Fabrics containing strong odors should be washed in a normal cycle.

8-3. Display Fault/Error Codes

The error codes below will be displayed when attempting to start a drying cycle or after activating the Diagnostic Test mode.

DISPLAY	CHECKING PART	CAUSE	REMARK
tE1	Thermistor of blower housing	Outlet thermistor open or shorted.	tE1 error is displayed in the drying cycle or test mode.
tE2	Thermistor of blower housing	Outlet thermistor open or shorted.	tE2 error is displayed in the drying cycle or test mode.
tE4	Thermistor of steam generator	Steam generator thermistor open or shorted.	- tE4 error is only displayed in the test mode. - Replace the steam generator.
E5	Water supply pump	When the pump valve is less than 10 in the test mode	- tE5 error is only displayed in the test mode. - Check the connection between harness wire and connector. - Replace the water supply pump.
 Add Water	Steam generator	Sensors do not detect that steam generator is full within 60 seconds.	If water in the steam feeder is not enough this error may be displayed. Fill the feeder and restart the cycle.
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.
EE	EE PROM Error	EE PROM operation is abnormal.	EE error is displayed only in the test mode
nC	NFC module	NFC module open or shorted	nC is displayed only in the test mode
nU	NFC module	NFC module is wrong	nU is displayed only in the test mode

Before using the Tag On function

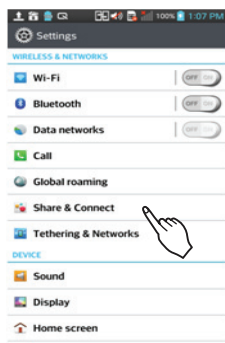
- The Tag On function allows you to conveniently use the LG Smart Diagnosis™ and Cycle Download features to communicate with your appliance right from your own smart phone. To use the Tag On function:

1. Download the LG Smart Laundry&DW App to your smart phone.
2. Turn on the NFC (Near Field Communication) function in your smart phone.

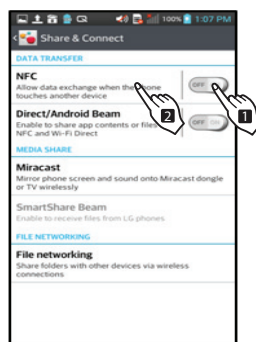
The Tag On function can only be used with smart phones equipped with the NFC function and based on the Android operating system (OS).

• Turning on the NFC function of the smart phone

1. Enter the "Settings" menu of the smart phone and select "Share & Connect" under "WIRELESS & NETWORKS."



2. 1 Set "NFC" and "Direct/Android Beam" to ON, 2 and select "NFC".



3. Check "Use Read and Write/P2P receive".

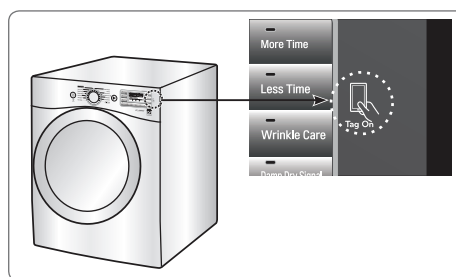


NOTE

Depending on the smart phone manufacturer and Android OS version, the NFC activation process may differ. Refer to the manual of your smart phone for details.

• The Tag On guide

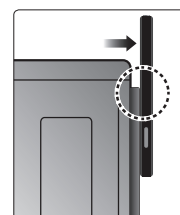
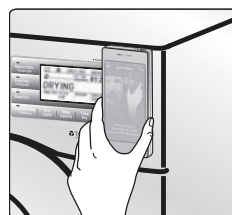
The Tag On icon



Tag On position



Look for the Tag On icon next to the LED screen on the control panel. This is where you position your smart phone when using the Tag On function with the LG Smart Diagnosis™, Cycle Download, and Laundry Stats features of the LG Smart Laundry&DW application.



When you use the Tag On function, position your smart phone so that the NFC antenna on the back of your smart phone matches the position of the Tag On icon on the appliance. If you do not know the position of your NFC antenna, move your smart phone very slightly in a circular motion until the application verifies the connection.

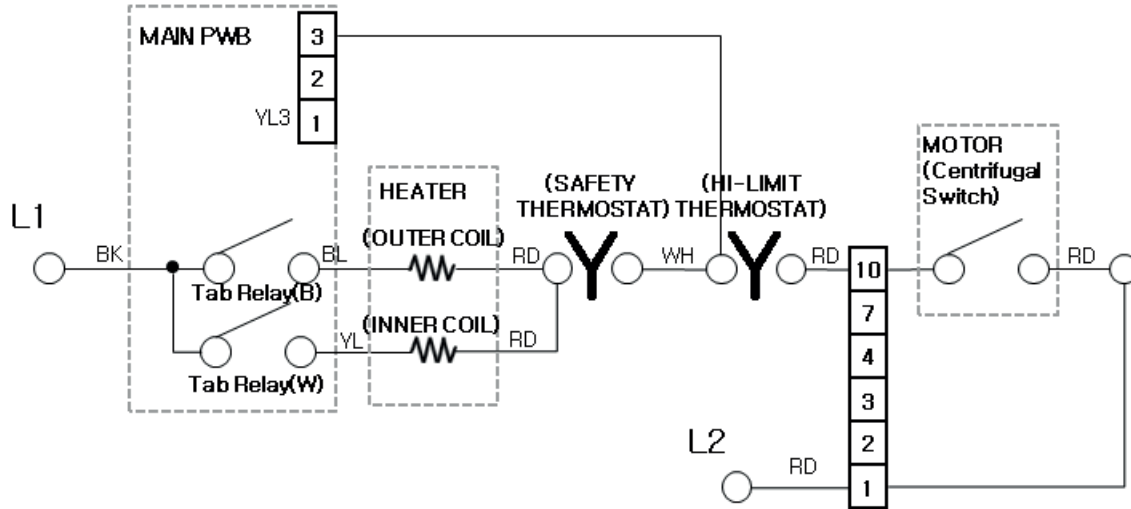
Because of the characteristics of NFC, if the transmission distance is too far, or if there is a metal sticker or a thick case on the phone, transmission will not be good.

Press **?** in the LG Smart Laundry&DW app for a more detailed guide on how to use the Tag On function.

8-4. Troubleshooting with Symptom

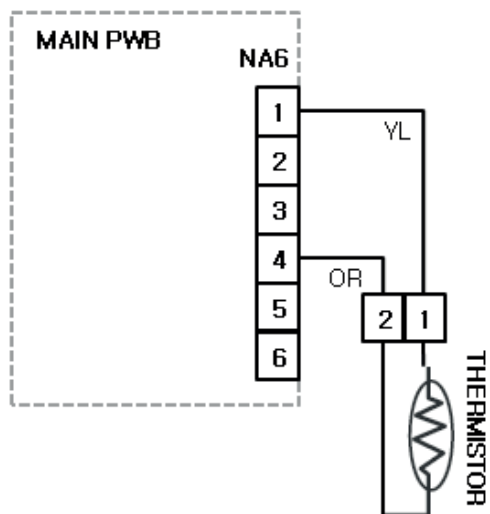
Symptom	Check Point
1. Not heating	1. Check Electric Wiring. 2. Check the motor operation. 3. Voltage of the Main PWB. 4. Check Heater element's Resistance.

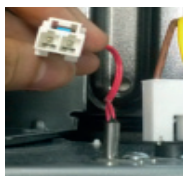
<Electric Dryer>



Component	Picture	Test Point	Value
Main PWB Tab relay(B)④-YL3① Tab relay(W)④-YL3①		Measure voltage 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°F (125 ± 5°C) ② Close at 221 ± 9°F (94 ± 7°C)	① Resistance value = ∞ ② Resistance value < 5Ω
Thermostat(Safety)		Measure resistance of terminal to terminal ① Open at 284 ± 41°F (140 ± 5°C) ② Auto reset -31°F (-35°C)	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]	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 per-
formance 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 power
outlet.

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

Is voltage of outlet within correct
range?

※ 3-1 Connection with a Power
Supply Cord

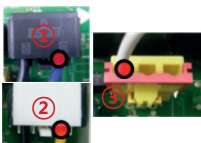
No

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



Yes

No

Defective main
PCB

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 $257 \pm 9^{\circ}\text{F}$
($125 \pm 5^{\circ}\text{C}$) $\approx \infty$
- ② Close at $221 \pm 9^{\circ}\text{F}$
($94 \pm 7^{\circ}\text{C}$) $< 5\Omega$

Safety

- ① Open at $284 \pm 41^{\circ}\text{F}$
($140 \pm 5^{\circ}\text{C}$) $\approx \infty$
- ② Close at -31°F
(-35°C) $< 5\Omega$

No

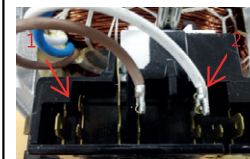
Defective
Thermostat. If
Safety thermostat
Is open, replace
Both after
Determining what
Caused thermo-
stat
to open

Yes

Unplug UNIT / Check centrifugal
switch

Are motor readings normal?

- ① Resistance value =
30mmΩ



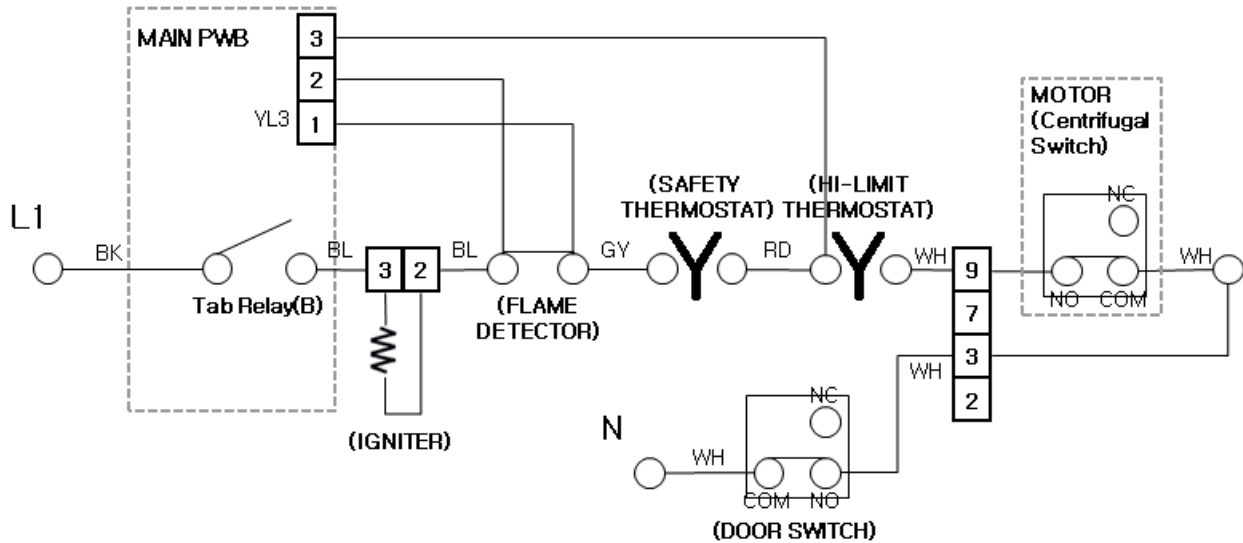
No

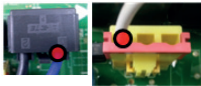
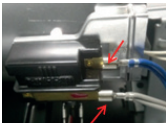
Defective Motor

Yes

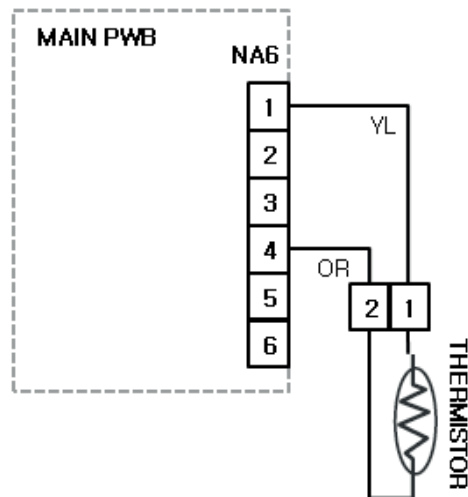
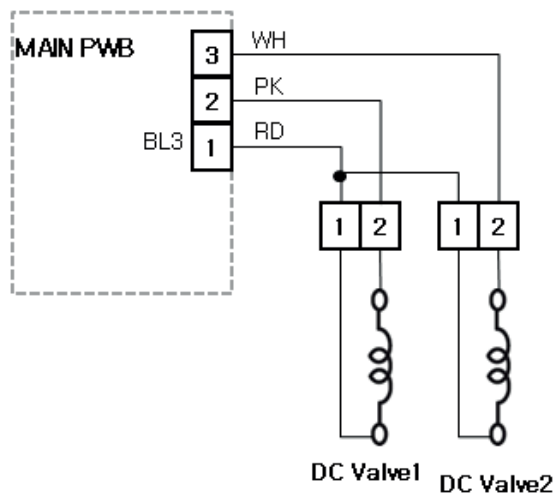
Retest heating circuit

<Gas Dryer>



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

<Gas Dryer>



Component	Picture	Test Point	Value
Main PWB BL3① - BL3② BL3① - BL3③		Measure voltage of connector to connector ① Valve On ② Valve Off	① Voltage value≒ 90Vdc② Voltage value≒ 102Vdc
DC Valve1		Measure resistance of following terminal ① Valve1 terminal	①Resistance value > 1.5kΩ~2.5kΩ
DC Valve2		Measure resistance of following terminal ① Valve2 terminal	①Resistance value > 1.5kΩ~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]	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 keep lint filter clean for performance and safety reason.



No

Run dryer on a heat cycle for one minute.

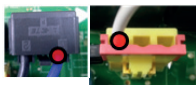
If heat is felt, unit may have a vent problem, Investigate venting system.
Is vent too long?
Fully or partially clogged, etc?

Yes

Troubleshooting for inadequate airflow.

No

Check voltage of connector to connector
CAUTION: Potential for voltages over 100Vac. Proceed with care.
① Igniting = $120\text{Vac} \pm 10\%$
② Stop = 0

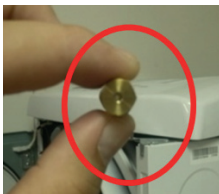


No

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 > $1.5\text{k}\Omega \sim 2.5\text{k}\Omega$
- ① Valve2 terminal > $1.5\text{k}\Omega \sim 2.5\text{k}\Omega$

No

Defective gas valve

Yes

Unplug UNIT / Check Igniter

Resistance value = $50 \sim 800\Omega$



No

Defective Igniter

Yes

Unplug UNIT /
Test flame detector

- ① Open at 370°F (Maximum) $\approx \infty$
- ② Close at 320°F $< 1\Omega$

No

Defective Flame detector.

Yes

Unplug UNIT / Test thermostats

Hi-limit

- ① Open at $203 \pm 41^\circ\text{F}$ ($95 \pm 5^\circ\text{C}$) $\approx \infty$
- ② Close at $158 \pm 41^\circ\text{F}$ ($70 \pm 5^\circ\text{C}$) $< 5\Omega$

Safety

- ① Open at $230 \pm 41^\circ\text{F}$ ($110 \pm 5^\circ\text{C}$) $\approx \infty$
- ② Close – Manual reset

No

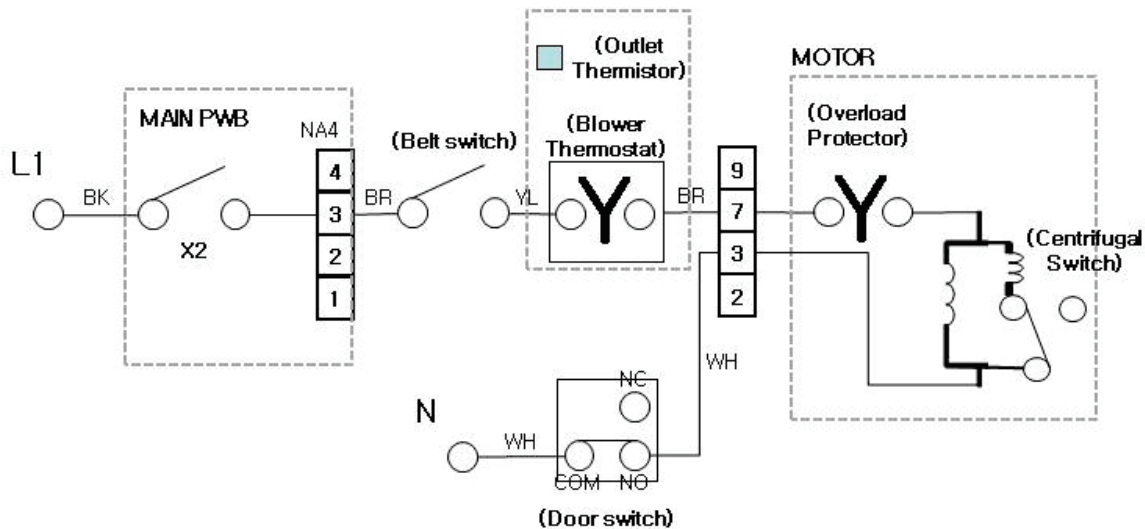
Defective Thermostat. If Safety thermostat Is open, replace Both after Determining what Caused thermostat to open

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 voltage of connector to connector ① Tumbling ② Stop	① Voltage value = 120Vac ② Voltage value = 0
Belt Switch		Measure resistance of the following terminal: COM - NC	1. Lever open ① Resistance value < 1Ω 2. Lever push (Close) ② Resistance value ≈ ∞
Outlet Thermostat		Measure resistance of terminal to terminal ① Open at 185 ± 41°F (85 ± 5°C) ② Close - Not recovery	① Resistance value ≈ ∞ ② Resistance value < 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°F) ② Resistance value = 3.37Ω±5%(at 75°F)
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: push 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

Not tumbling

- Case1. Motor doesn't operate at all.
- Case2. Motor operates but stops soon. → Go to ★

Power on, press the start button.
Display status is 'Pause'?



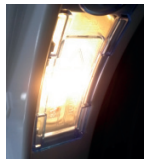
Start/Pause Button
Blinking

Yes

Check the door
is not closed
properly.

No

When the door is closed, door light
is still on?

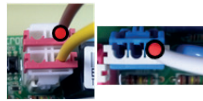


Yes

Check the door
Switch and hous-
ing.

No

Unplug UNIT /
Is resistance less than 3Ω
Between connetors?
Note : Measure while door is
closed



Yes

Is the voltage
120Vac during a
cycle.
-. No: defect PCB
-. Yes: Unit good
CAUTION:
Potential for
voltages over
100Vac. Proceed
with care.

No

Unplug UNIT /
Does belt switch attached to
Motor braket operate lever by
Drum belt?
(Not operating Lever is Normal)



Yes

Check belt switch
-. Drum belt cuts
off
-. Drum belt takes
off from motor.

No

Unplug UNIT / Check belt switch

1. Lever open
① Resistance value < 1Ω
2. Lever push (Close)
② Resistance value = ∞



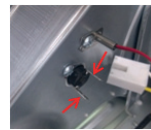
No

Defective Belt
Switch

Yes

★ Unplug UNIT /
Test Outlet thermostat

- ① Open at 185 ± 41°F
(85 ± 5°C) = ∞
- ② Close - Not recovery < 5Ω



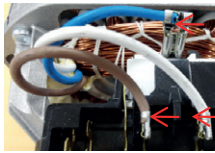
No

Defective Outlet
thermostat

Yes

Unplug UNIT / Check Motor

- Are motor readings normal?
- ① Main-Common
= 4.35Ω±5%(at 75°F)
 - ② Sub-Common
= 3.37Ω±5%(at 75°F)

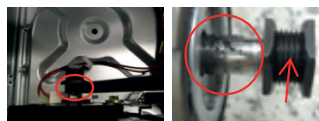


No

Defective Motor

Yes

Is belt not connected well on the
pulley?
Is the black dust on the shaft and
under the shaft?



Yes

Check belt
-. Drum belt cuts
off
-. Drum belt takes
off from motor.

No

Retest / recheck door switch, outlet
thermostat, belt switch, motor as-
sembly, harness.

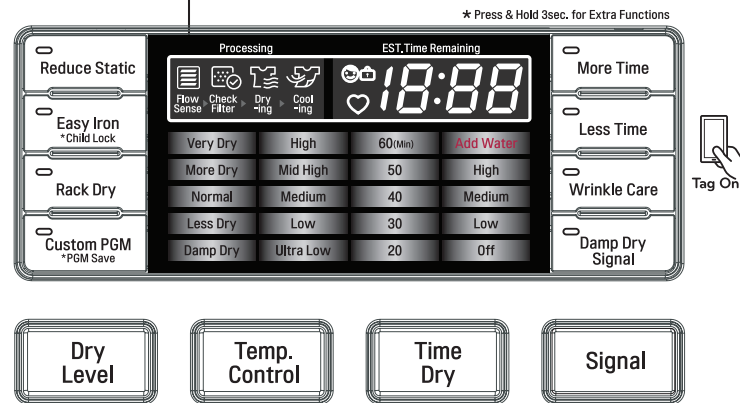
9-1 Flow Sensor

This FlowSense™ 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.

Flow Sensor Function



■ How does the Flow sense function display the clogging of duct ?

4 Bars	NO Bars
CLOGGED Check and Clean Duct.	NORMAL Duct OK. The Dryer can work.

The FlowSense™ display consists of four bars inside a box. The display has only two possible displays as only two possible displays as shown here (Also see the figure shown below):

- ① No bars displayed.
- ② 4 bars displayed.

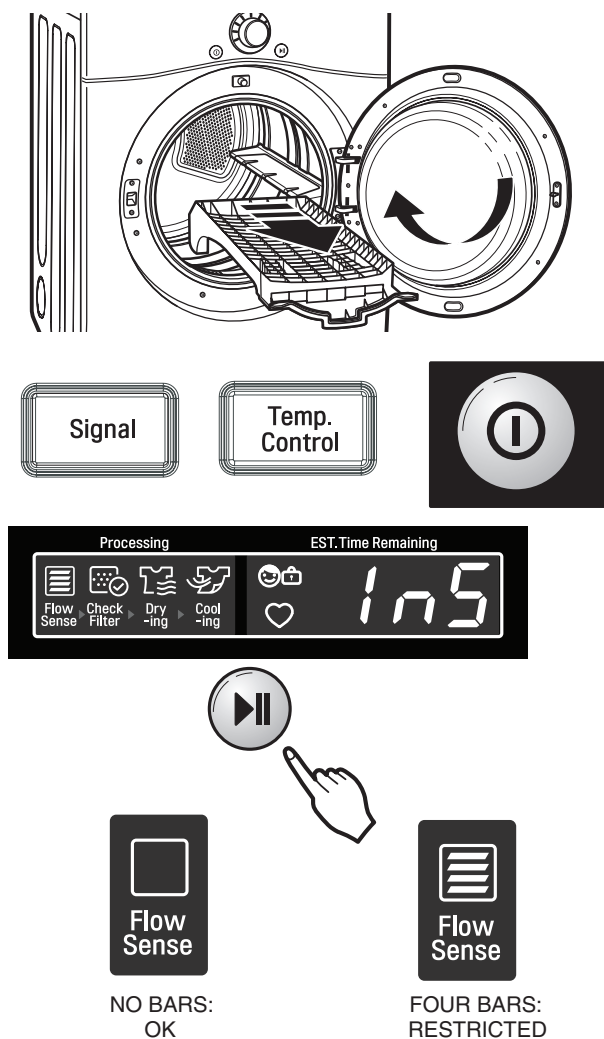
9-2 Installation Test (Exhaust check)

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.

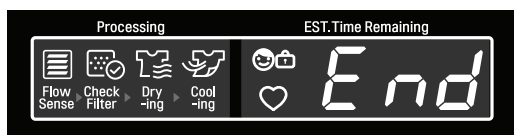
- Your dryer features FlowSense, an innovative sensing system that automatically detects blockages and restrictions in dryer ductwork. Keeping ductwork clean of lint buildup and free of restrictions allows clothes to dry faster and reduces energy use.

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.

To activate the Installation test :



Four bars indicates that the exhaust system is severely restricted. Have the system checked immediately, as performance will be poor.



- 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 CONTROL buttons and then press the POWER button.
This button sequence activates the installation test. The code **1n5** will display if the activation is successful.
- 3 Press START/PAUSE button.
The dryer will start the test, which will last about two minutes. The heat will be turned on and the temperatures in the drum will be measured.
- 4 Check the display for results.
During the two minute test cycle, monitor the FlowSense 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. Other problems may also be shown with error codes. Refer to the next page for error code details and solutions.
- 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.

- 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.

- Check the duct condition

If the test displays four bars, check the exhaust system for restrictions and damage. Repair or replace the exhaust system as needed.

NOTE: When the dryer is first installed, this test should be performed to alert you to any existing problems with the exhaust duct in your home. However, since the test performed during normal operation provides more accurate information on the condition of the exhaust duct than does the installation test, the number of bars displayed during the two tests may not be the same.

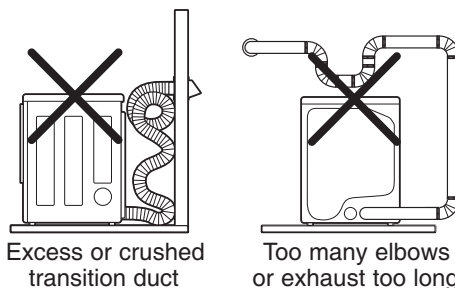
IMPORTANT: Do not interrupt the test cycle, as this could result in the wrong results.

NOTE: Even if no bars are displayed during the test cycle, some restrictions may still be present in the exhaust system. Refer to the Venting the Dryer section of this manual for complete exhaust system and venting requirements.

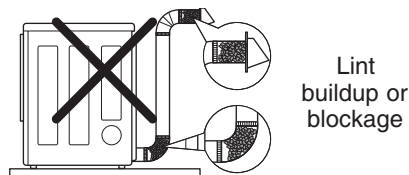
Restricted or Blocked Airflow



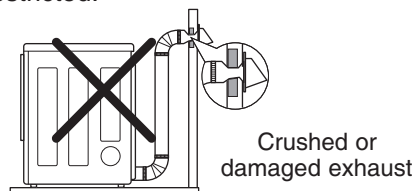
Avoid long runs or runs with multiple elbows or bends.



Check for blockages and lint buildup.



Make sure the ductwork is not crushed or restricted.



1. This TEST should be used for factory test /service test. Do not use this DIAGNOSTIC 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

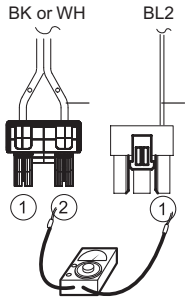
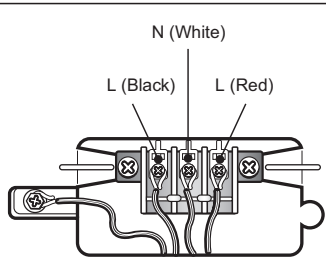
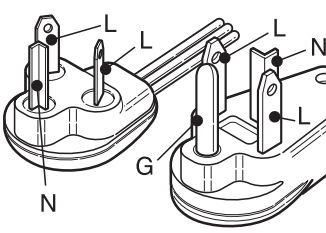
1. UNIT must be in standby (unit plugged in, display off)
2. Press POWER while pressing MORE TIME and LESS TIME simultaneously.
3. Press START/PAUSE button to advance through diagnostics.

Pressing the START/PAUSE	CHECKING ACTION	DISPLAY	CHECKPOINT
None	Electric control and Temperature sensor	1nES(Elec Type) 1n9S(Gas Type)	Standard
		U03	MAIN PGM ver(1nES - U03 - d02)
		d02	DISPLAY PGM
		tE1	Thermistor open
		tE2	Thermistor shorted
		tE4	AG Thermistor open or shorted
		nC	NFC module open or shorted
		nU	NFC module
Once	Motor+Controller	255 = 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 under normal circumstances.
Twice	■ ELECTRIC TYPE Motor+Heater 1(2700 W) ■ GAS TYPE Motor	Current Temp. (5~70)	■ ELECTRIC TYPE Heater 1 is energized - 2700 W ■ GAS TYPE is not opened (Temperature in the drum is displayed in degrees C.)
3 times	■ ELECTRIC TYPE Motor+Heater 1+Heater 2 (5400 W) ■ 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.) ■ DUAL SENSOR FAILURE CHECK : Values of TEMPERATURE and HUMIDITY are '000', the display shows SE ERROR.
4 times	Motor+Pump+ Heater 2(runs for 1 second) (Heater 1 off)	Pump AD valve (11~255)	Pump runs
		E5	Pump Error
5 times	Motor, Pump, Heater 2 off	OO	
6 times	Loads off, Controller off		Power off

* To check pump operation:

When pressed 4 times in the test mode, If the AD value of the pump is higher than 10 on the display, the pump is normal. If it is lower than 10, E5 error will be displayed.

■ 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 VAC?	NO → • Check the fuse or circuit breaker YES →
		Check if the voltage measured between connector BK-② 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 →
		NO → • Reconnect the controller. YES →
		Replace controller.

Caution	When measuring power, be sure to wear insulated gloves to avoid an electric shock.
Trouble Symptom	Check the tab relays connection properly.
Measurement Condition	With dryer power on; connector linked to controller.

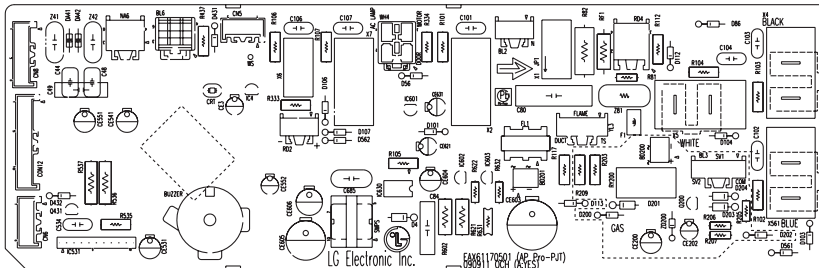
1. Power Connection

< 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 $68 \pm 4^{\circ}\text{C}$ Turn on heater 1 and heater 2.
Low Extra Low	on	off	on	off	Temperature control below $52 \pm 4^{\circ}\text{C}$ Turn on only heater 1.

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

	Tab Relay 1	Burner	Remark
High Mid High Medium	○	○	Temperature control below $70 \pm 4^{\circ}\text{C}$ Turn on burner
Low Extra Low	○	○	Temperature control below $47 \pm 4^{\circ}\text{C}$ Turn on burner



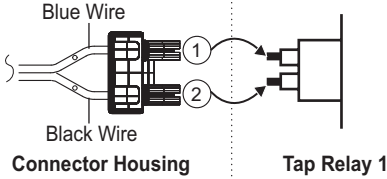
* PCB ASSEMBLY LAYOUT

2. Status Mode Of The Connection

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

	Color	Connection		Remark
		Harness	PCB	
Connector Housing	Black	Yellow wire Black wire Connector Housing	Tap Relay 1	Check the matching color between harness wire and tap relay. (Black housing – black tap relay)
	White	Blue wire Black wire Connector Housing	Tap Relay 2	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 On
*4.Black and White Housing	Housing CROSS	Heater 2	Heater 1	Power On
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)

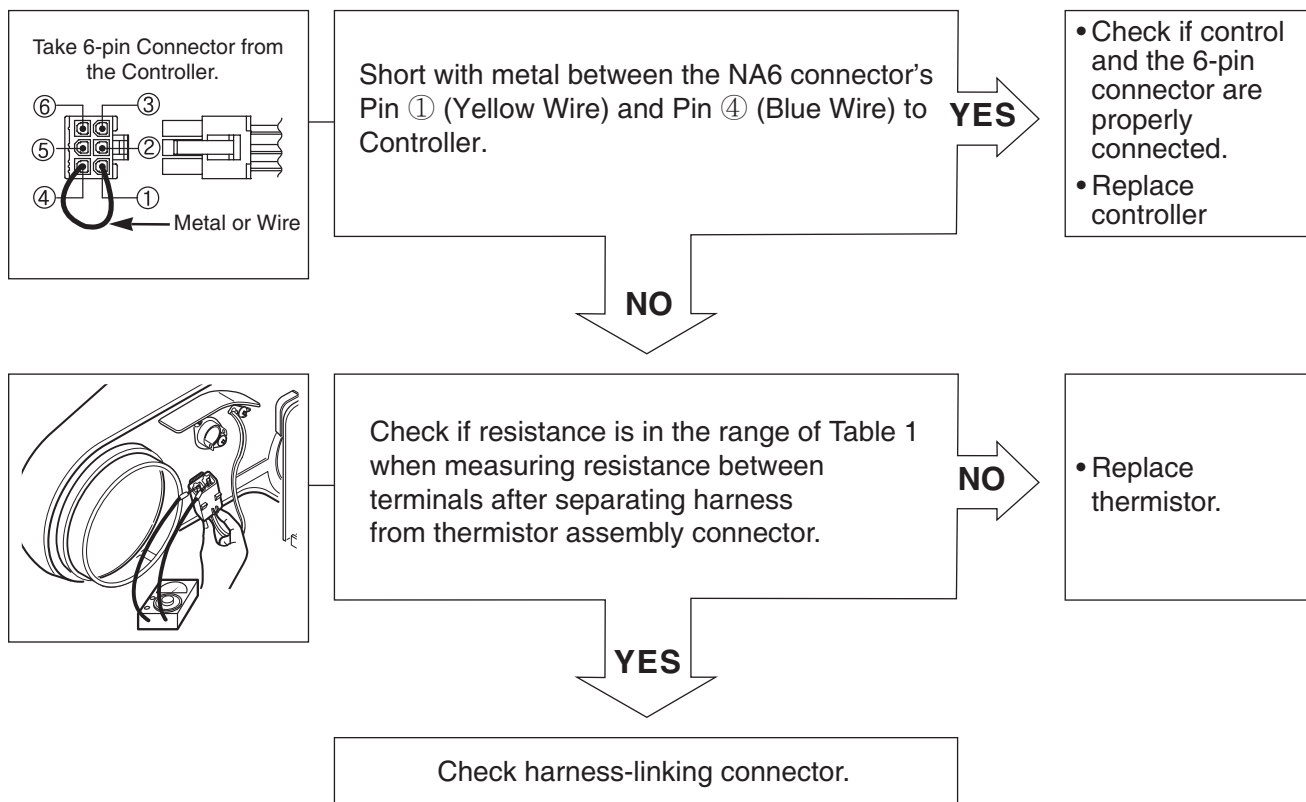
Items	Case	Heater 1 Operation (black)	Heater 2 operation (White)	PCB condition Of operation
1. Black and white housing	Wire ①, ② CROSS	Off	Off	Power Off

⚠ CAUTION

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

■ Test 2 Thermistor Test --Measure with Power Off

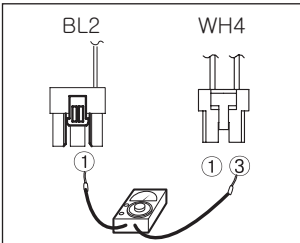
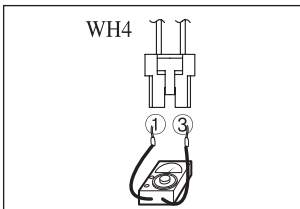
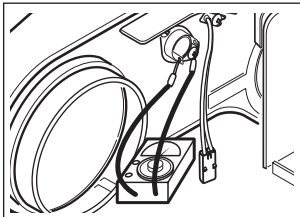
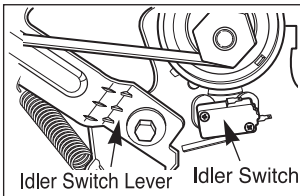
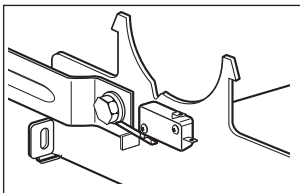
Caution	Before measuring resistance, be sure to turn the power off and discharge voltage. (When discharging, contact the metal plug of power cord with the ground.)
Trouble Symptom	① During diagnostic test, tE1 and tE2, an error occurs. ② During operation, the heater does not turn off. ③ Difference between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



■ 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

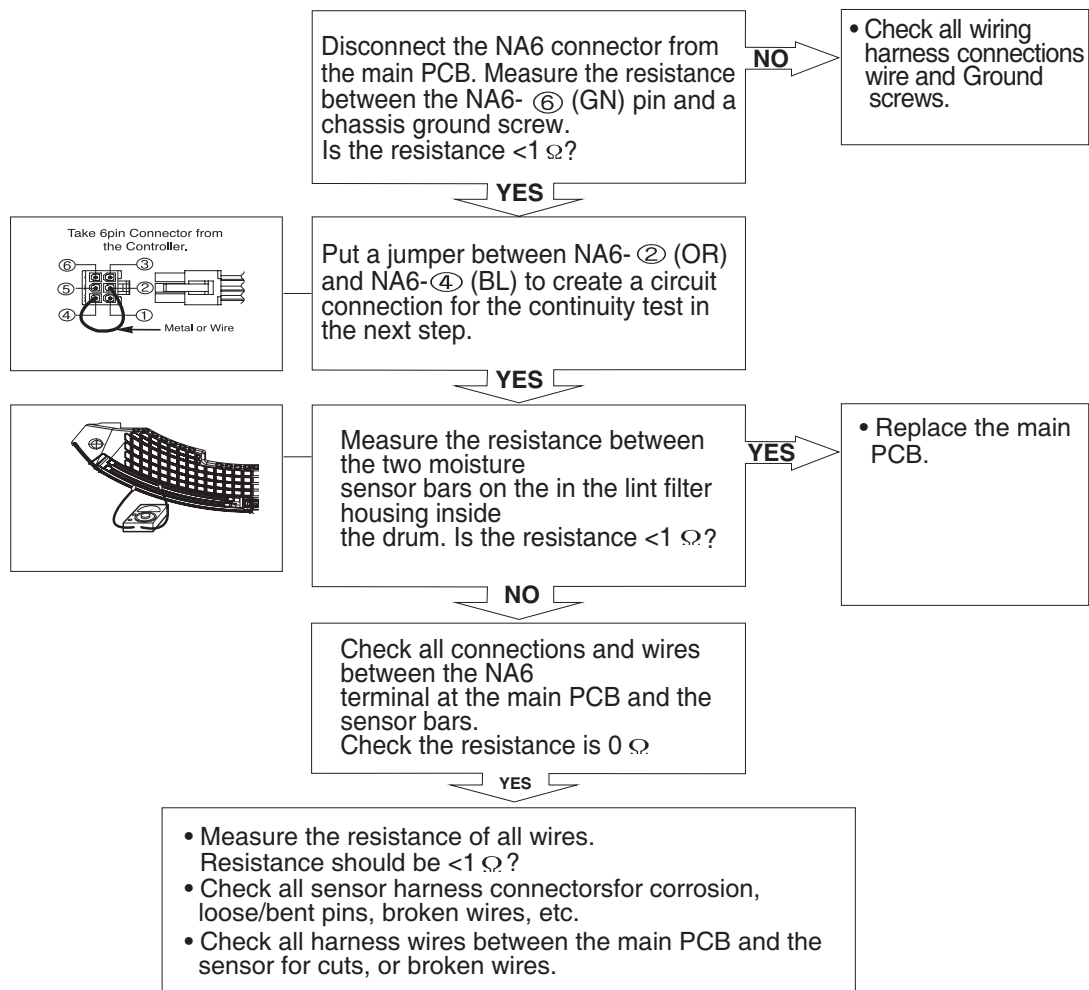
Caution	Before measuring resistance, be sure to turn the power off and discharge voltage. (When discharging, contact the metal plug of power cord with ground wire.)		
Trouble Symptom	Drum dose not rotate; no blower function, no heater function.		
Measurement Condition	Turn the dryer's power off, then measure resistance.		
	Is resistance below 3 $\square$ 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 $\square$ 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 $\square$ between connector WH4-① (Yellow wire) and WH4-③ (Brown wire)? YES	• Replace control. (Relay check) • Check controller connector.
	NO	Is resistance below 1 $\square$ 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 $\square$ 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 then begin to increase (maximum 255).
8. If this test fails, proceed with the MECHANICAL TEST below.

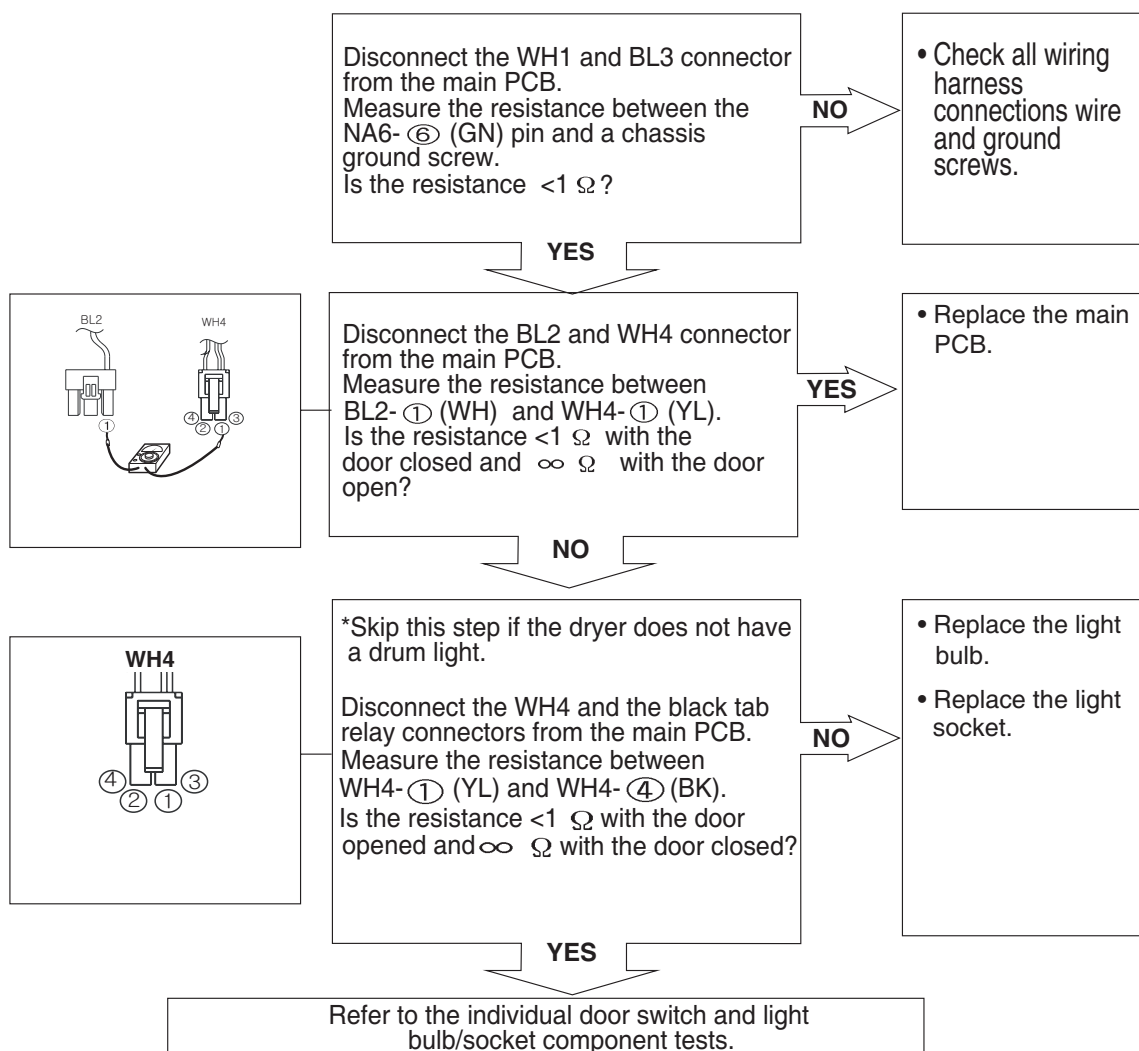


■ Test 5 Door Switch Test

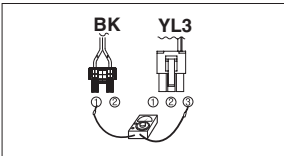
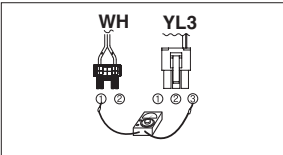
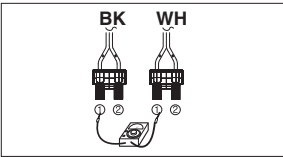
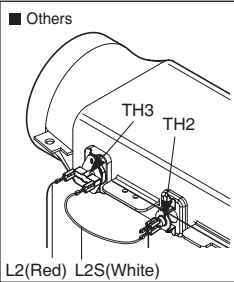
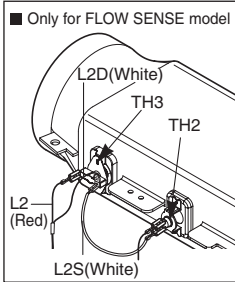
NOTE: This test has two parts. The best test of the door switch system is done in the diagnostic mode. This FUNCTIONAL TEST will test the door switch, wiring harness and PCB operation. If the results of this test are normal, the door switch system and PCB response are normal. The problem is somewhere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

FUNCTIONAL TEST (Control)

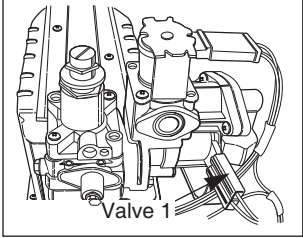
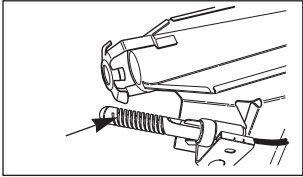
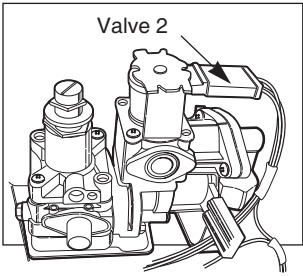
1. Enter the diagnostic mode. (See DIAGNOSTIC TEST MODE.)
2. With the door closed, press the START/PAUSE button once. The dryer will start tumbling without heat.
3. Open the door. The drum will stop tumbling. The "dE" error code should be displayed, the chime should sound seven times (if turned on), 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.



■ Test 6 Heater Switch Test – Electric Type

Caution	Before measuring resistance, be sure to turn the power off, and do voltage discharge. (When discharging, contact the metal plug of the power cord with a ground line.)
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 YES Disconnect the YL3, black tab relay and white tab relay connectors at the main PCB. Measure the resistance between YL3-③ (WH) and the BL wire on the black tab relay connector. Is the resistance 18-22 Ω? NO 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 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 YES Measure the resistance between terminals 1 (RD) and the heater housing. Is the resistance <1 Ω? NO YES Refer to the hi-limit thermostat and thermal cut off component tests. • Check power supply. • Check wiring and connectors to the element. • See element component test. • Check wiring and connectors to the element. • See element component test. • Check wiring and connectors to the element. • See element component test. • Replace the element.	
■ Others  ■ Only for FLOW SENSE model  ※ Wires • L2(Red) • L2D(White) : Go to the duct(YL3 in main pcb) • L2S(White) : Go to the safety.	

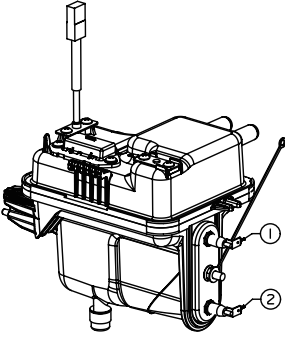
■ Test 7 Gas Valve test – Gas Type

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
   <pre> graph TD Start[Power on & start (Normal cycle)] -- NO --> Q1{When measuring Valve 1 voltage, is the valve at least 90 V DC?} Q1 -- NO --> A1[• Check thermostat hi-limit safety] Q1 -- YES --> Q2{Igniter operates? (after 1 minute, igniter becomes reddish)} Q2 -- NO --> A2[• Check Igniter and frame detect] Q2 -- YES --> Q3{When measuring Valve 2 voltage, value is more is the valve at least 90 V DC? (10 sec after igniter off)} Q3 -- YES --> A3[• Check gas connection or gas supply] Q3 -- NO --> Q4{When measuring terminal resistance on valve 1 and valve 2, valves are more than 1.5 ~ 2.5 kΩ? (Measure after off)} Q4 -- YES --> A4[• Change valve] Q4 -- NO --> Q5{If valve 1 and valve 2 read less than 10 V DC, are the valves off?} Q5 -- NO --> A5[• Change valve] Q5 -- YES --> A6[• Harness check • Controller change] </pre>	
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.
After activating the *diagnostic test, press the START/PAUSE button 4 times. Is AD value displayed higher than 10 ? Note : Let the dryer start each test step Before continuing to the next. If you press the button in rapid-fire succession, you could damage the main board. NO ↓ • Replace the DC pump YES ↓ Normal condition	
* see page 26 for diagnostic test information.	

■ Test 9 Generator Assembly

Caution	Before measuring resistance, be sure to turn power off, and discharge voltage. (When discharging, contact the metal plug of power cord with the ground wire.)
Trouble Symptom	① During steam cycle, generator assembly is not heating. ② During diagnostic test, tE4 error occurs.
Measurement Condition	Turn the dryer's power off, then measure resistance.
 Is resistance 14.3 Ω ($\pm 5\%$) between heater terminal ① and ② ? YES ↓ Normal condition NO ↓ • Replace the generator assembly • If the measured resistance is out of spec, replace the steam generator assembly.	

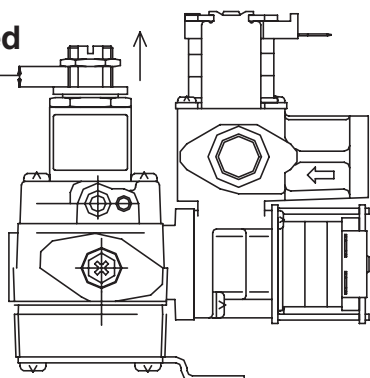
Warning

Changing orifices and gas valve adjustments improperly can result in explosion and/or fire. Conversion must be made by a qualified technician.

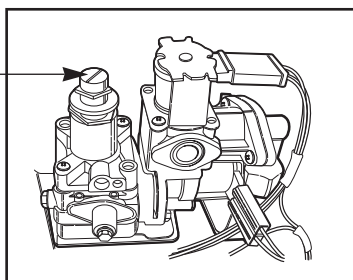
Initially, The burner is set for natural gas at the factory. The propane orifice conversion kit is sold as a service part to authorized servicers only. Part numbers are shown below.

STEP 1 : VALVE SETTING

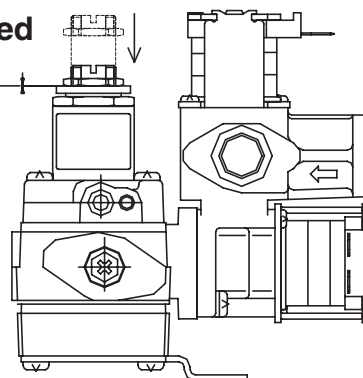
Opened



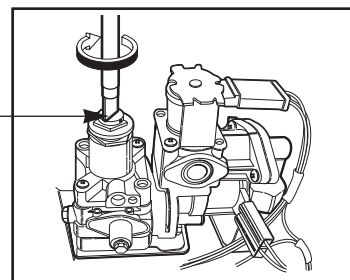
NATURAL GAS SETTING

Full open
Adjustment screw

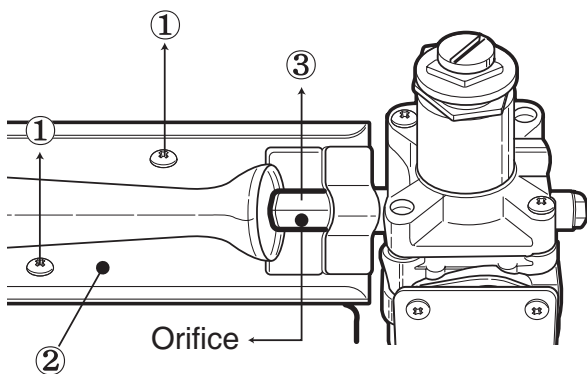
Closed



PROPANE GAS SETTING

Close
Adjustment screw

STEP 2 : ORIFICE CHANGE

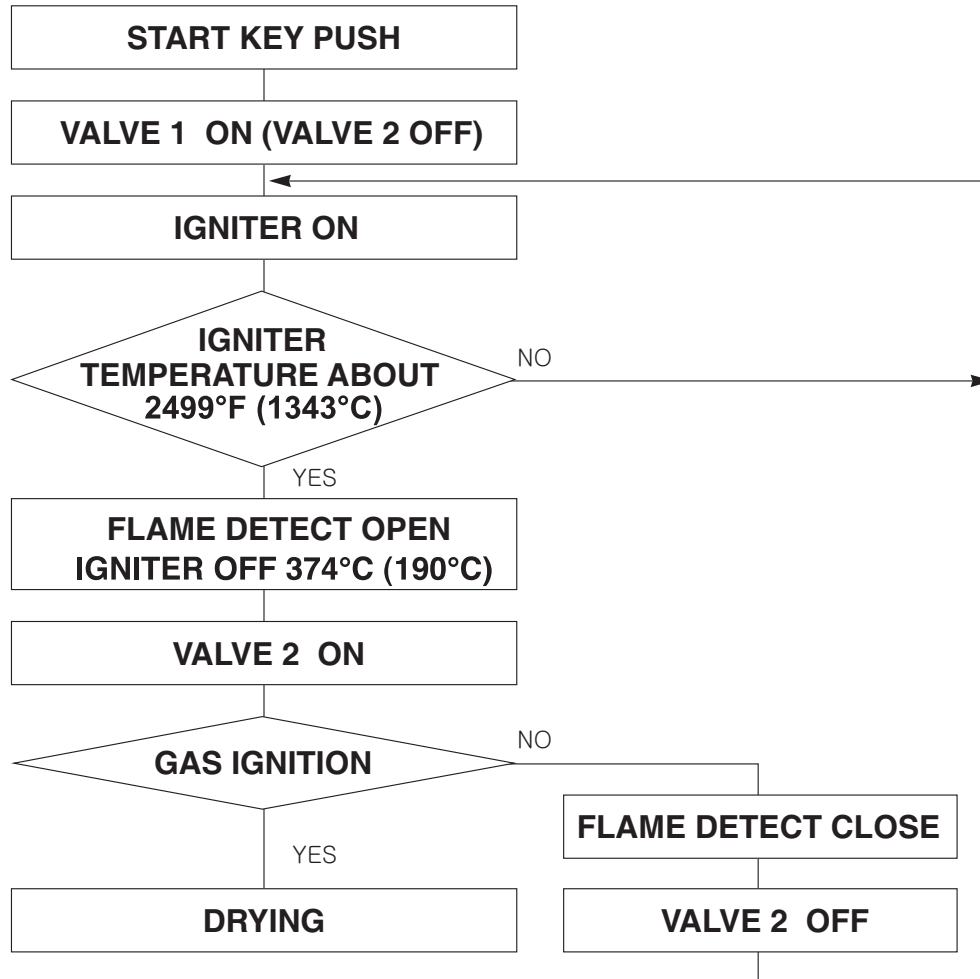


- ① Remove 2 screws.
- ② Disassemble the pipe assembly.
- ③ Replace natural gas orifice with propane gas orifice.

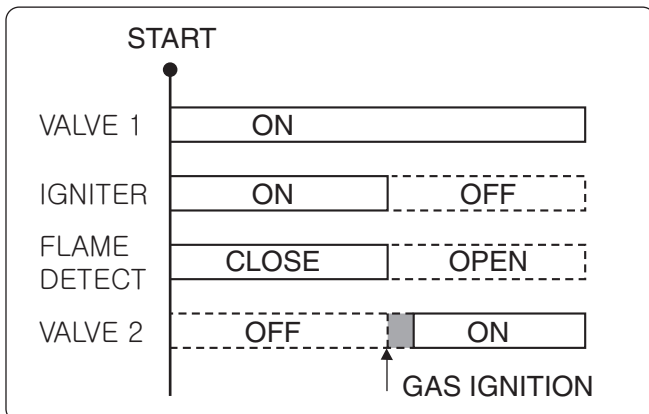
Gas type	Orifice P/No	Marking	Shape
Natural Gas	4948EL4001B	NCU	
Propane Gas	4948EL4002C	PCK	

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

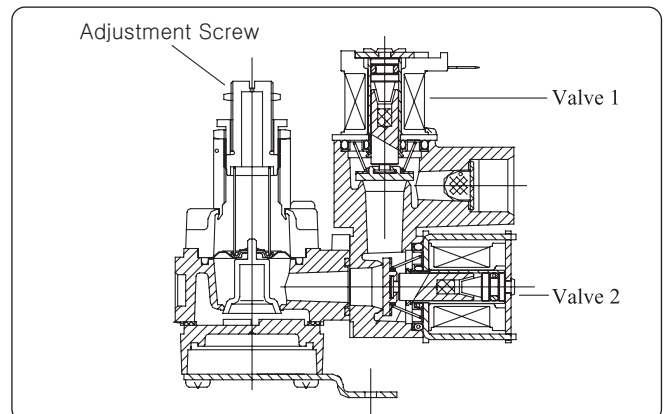
■ GAS VALVE FLOW



GAS IGNITION

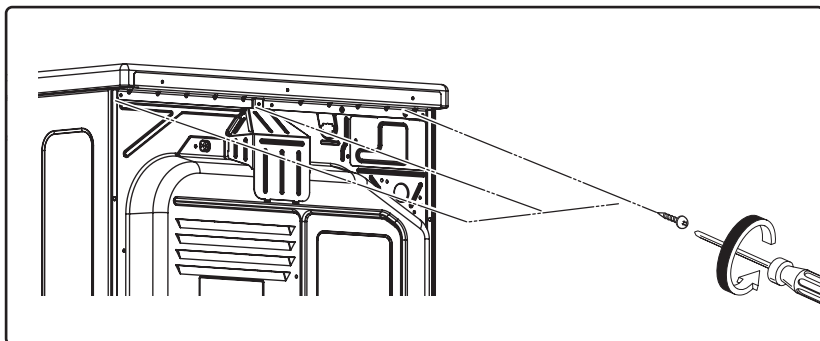


GAS VALVE STRUCTURE



※ Unplug the dryer before servicing.

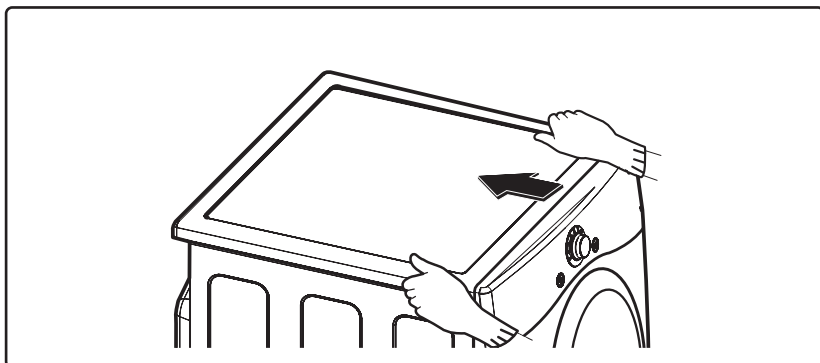
TOP PLATE



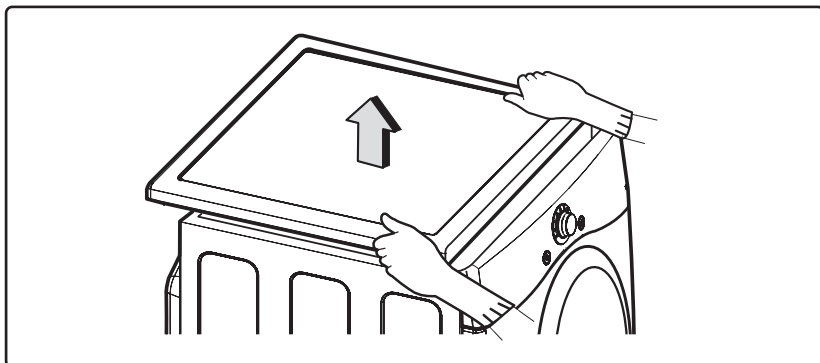
⚠ WARNING !

When you disassemble the top plate, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working. To reduce the risk of Injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Remove 3 screws on the upper plate.



2. Push the top plate backward.

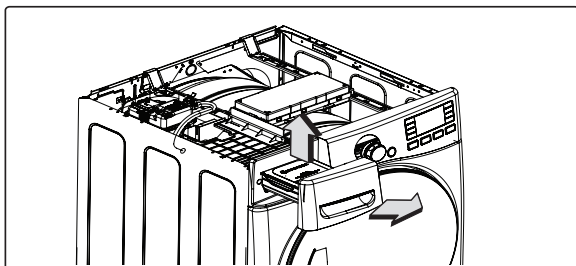


3. Lift the top plate.

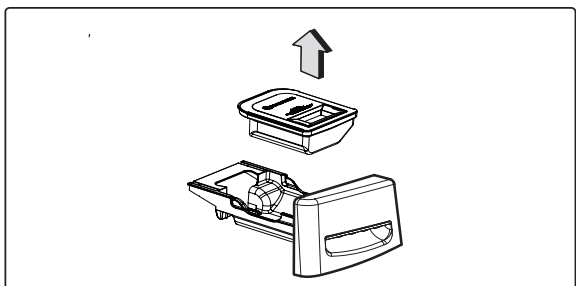
⚠ WARNING !

THE DRYER TOP PLATE IS VERY LARGE AND HEAVY. Failure to follow instructions can result in damage to the dryer, property damage or Injury to persons.

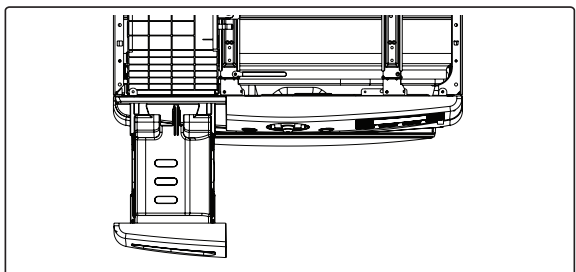
PANEL DRAWER ASSEMBLY



1. Pull out the drawer

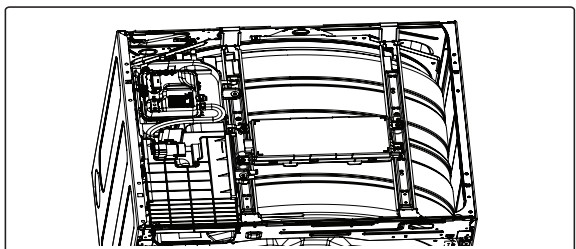


2. Lift out the steam feeder

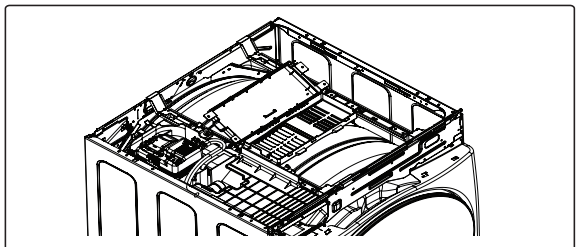


3. Lift the hook and pull out the drawer.

PCB ASSEMBLY

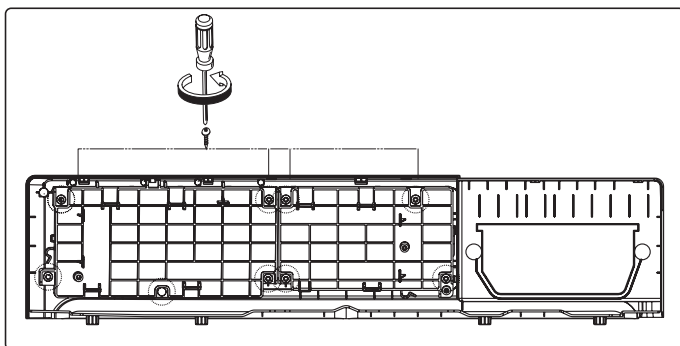
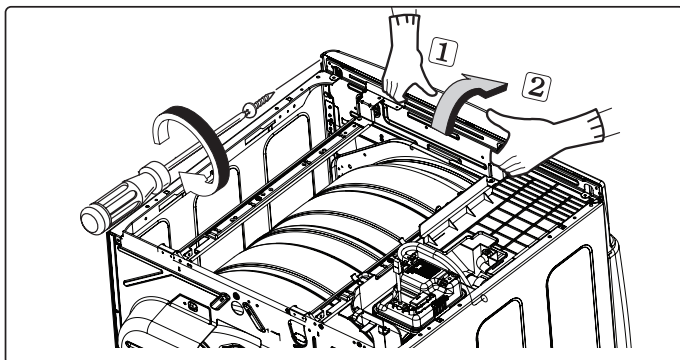
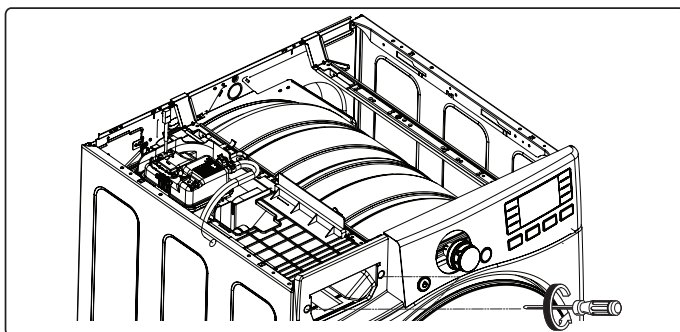
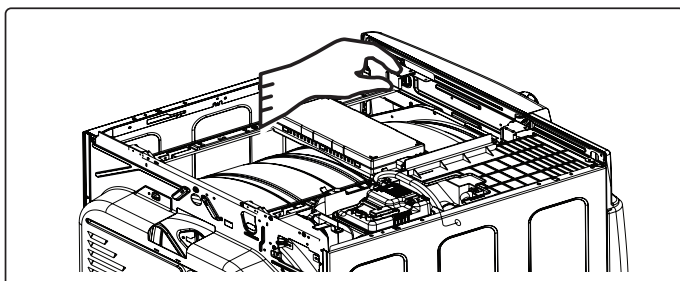


1. Remove 2 screws on the frame body.



2. Open the cover guide and disconnect the connectors.

CONTROL PANEL ASSEMBLY

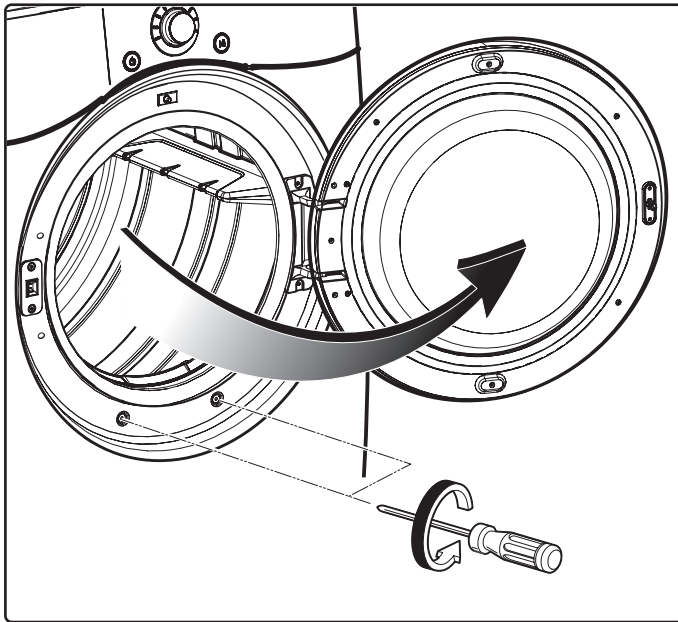


⚠ WARNING !

When you disassemble the control panel, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working. To reduce the risk of Injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Disconnect the connectors.
2. Remove 2 screws on the control panel.
3. Remove 1 screws on the panel frame.
4. Pull the control panel assembly upward and then forward.
5. Remove 8 screws on the PCB PCB) assembly, display.
6. Disassemble the control panel assembly.

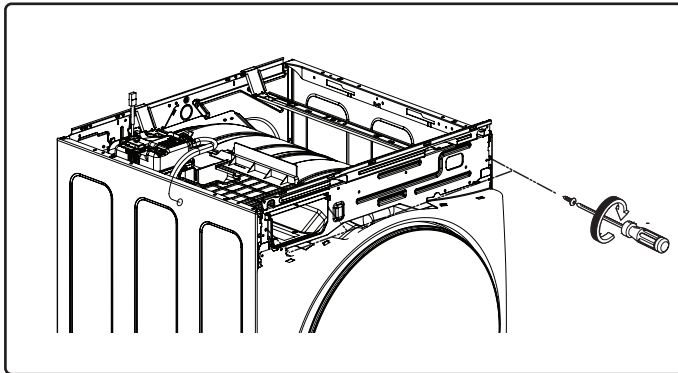
COVER CABINET



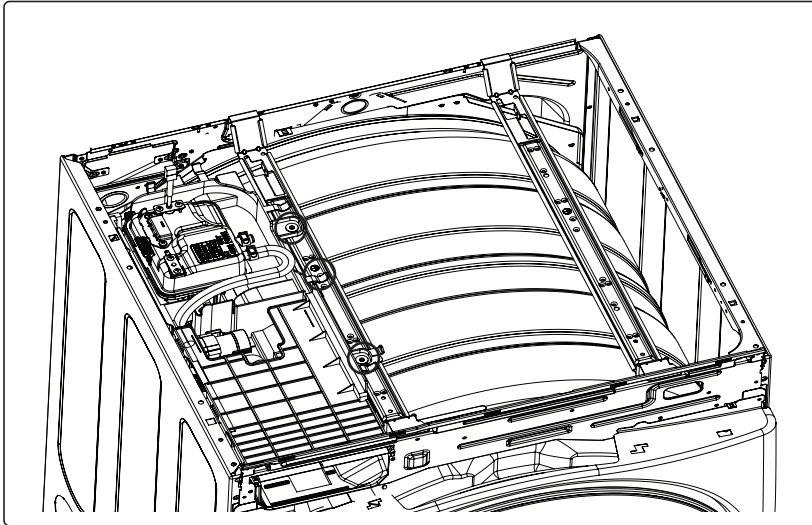
⚠ WARNING !

When you disassemble the door switch connector, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working. To reduce the risk of Injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

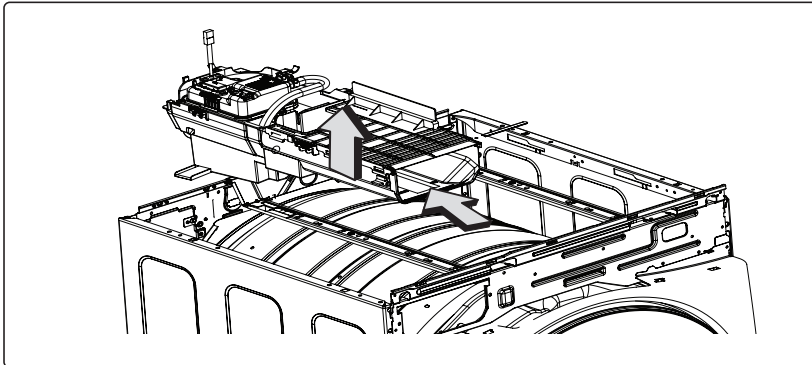
1. Disassemble the top plate.
2. Disassemble the control panel assembly.
3. Disassemble the door assembly.
4. Remove 2 screws.
5. Remove 3 screws from the top of cabinet cover.
6. Disconnect the harness of door switch.



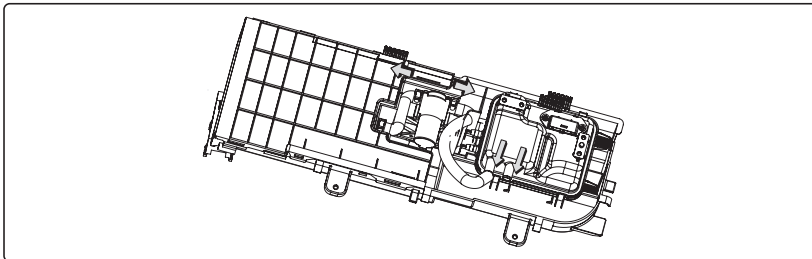
GUIDE ASM



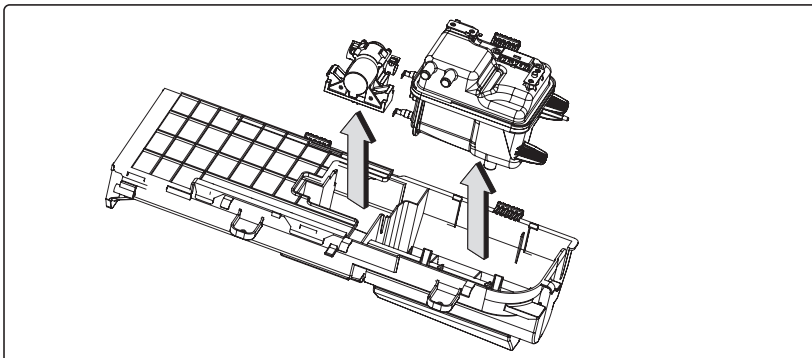
1. Remove 3 screws on the frame body.



2. Push the guide assembly to the back side and then lift it.

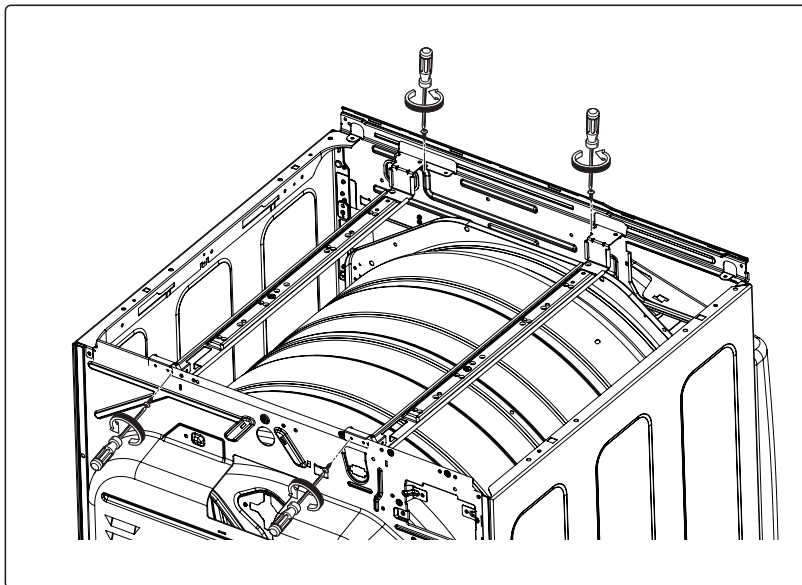


3. Separate 2 hoses from the pump and generator.

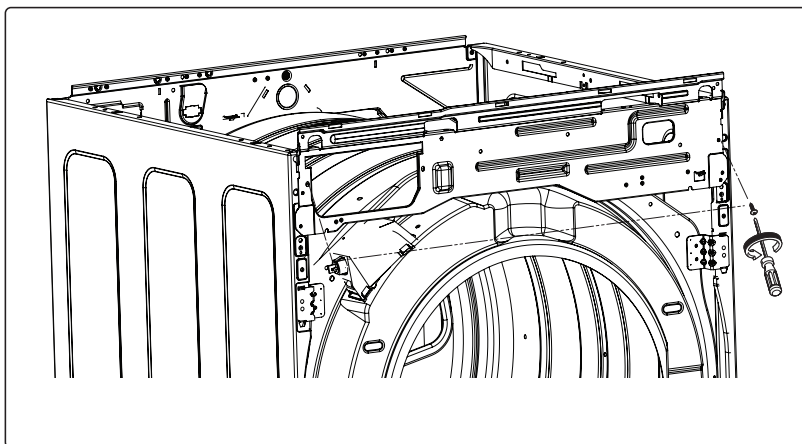


4. Lift a pump and generator up.

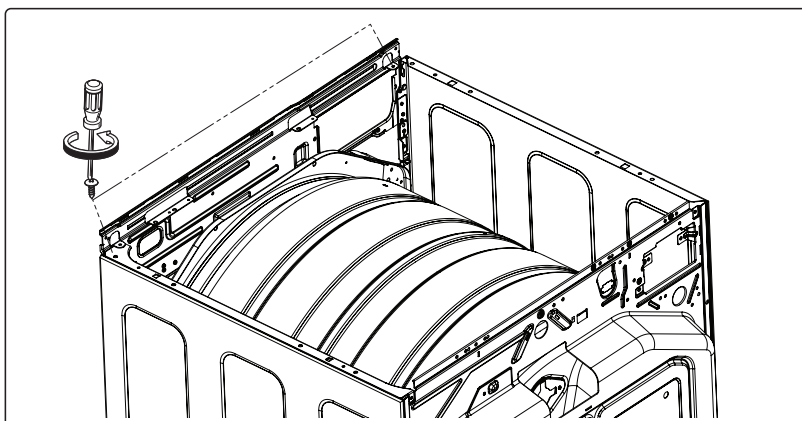
BODY FRAME & PANEL FRAME



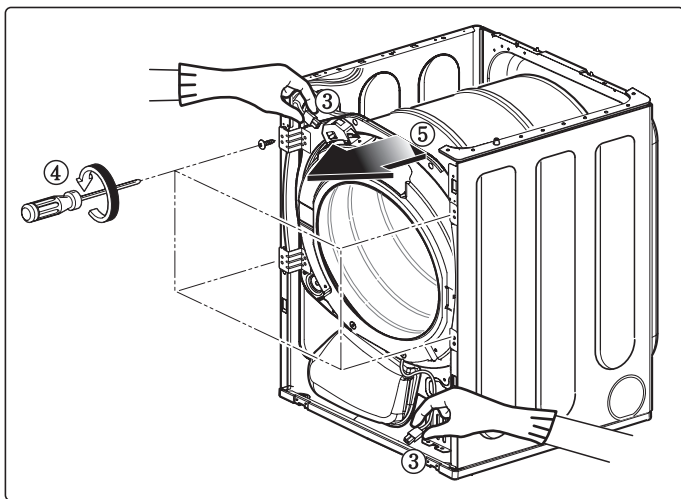
1. Remove 4 screws on the frame body.
and then disassemble the frame body.



2. Remove 4 screws on the panel frame
and then remove it.



TUB DRUM [FRONT]

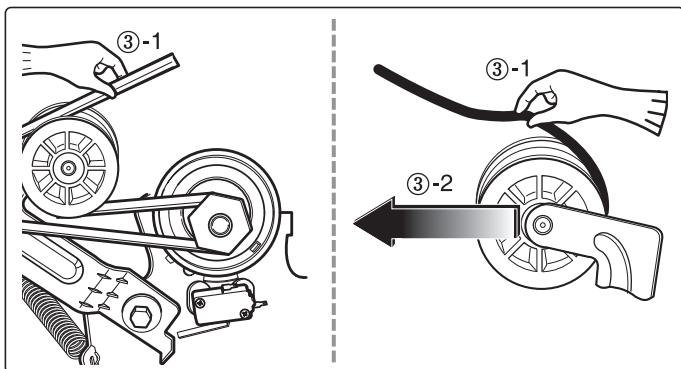


⚠ WARNING !

When you disassemble the lamp connector, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working. To reduce the risk of Injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

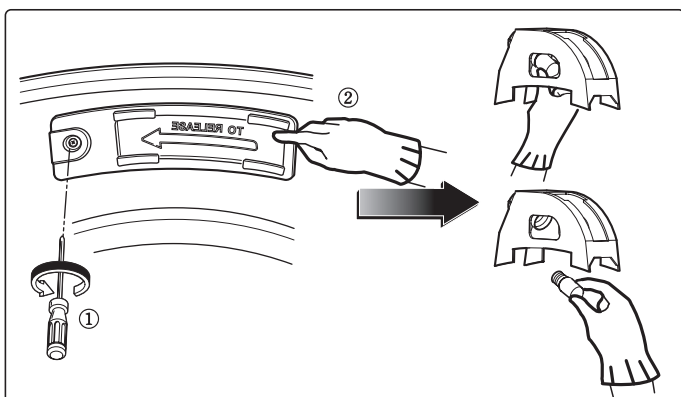
1. Open the top plate.
2. Remove cover cabinet.
3. Disconnect the door lamp and electrode sensor connector.
4. Remove 4 screws.
5. Disassemble the front bulkhead.

DRUM ASSEMBLY



1. Open the top plate.
2. Remove the cabinet cover and the front bulkhead.
3. Loosen belt from motor and idler pulleys.
4. Carefully remove the drum.

CHANGING THE DRUM LAMP



1. Open the door.
2. Hold the lamp shield in place while removing the screw.
3. Slide the shield up and remove.
4. Remove the bulb and replace with a 15-watt, 120-volt candelabra-base bulb.
5. Replace the lamp shield and screw.

DRYER EXHAUST CHANGE

⚠ WARNING !

Before performing this exhaust installation, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working inside the cabinet. To reduce the risk of injury to persons adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Remove screw and exhaust duct.

2. Detach and remove a knockout at the bottom, left or right side as desired. (Right side vent not available on gas dryer)

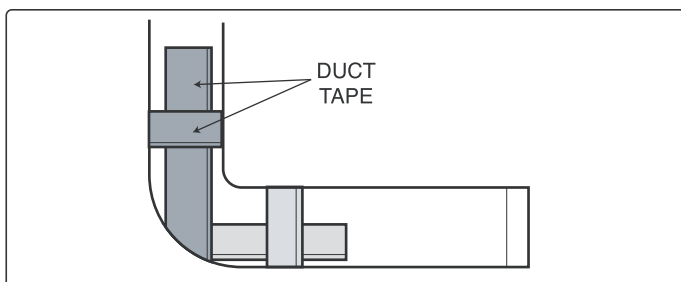
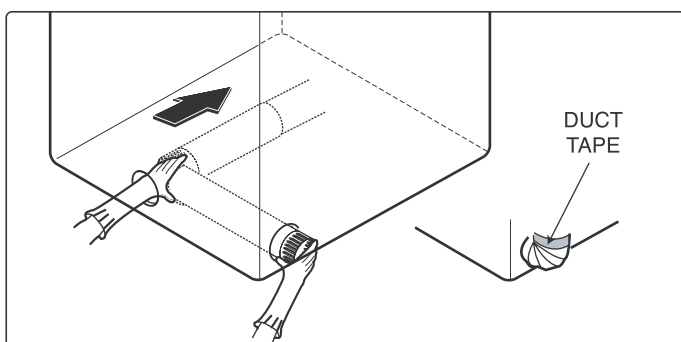
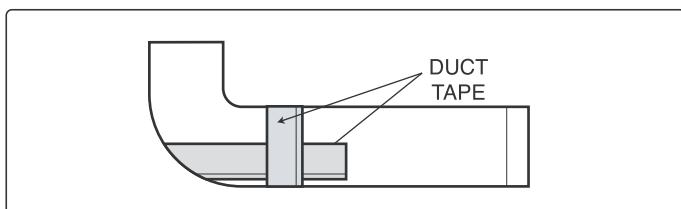
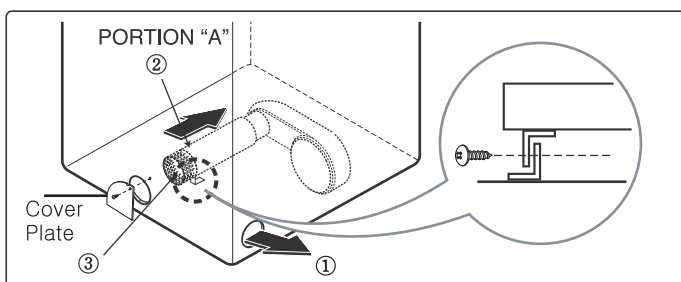
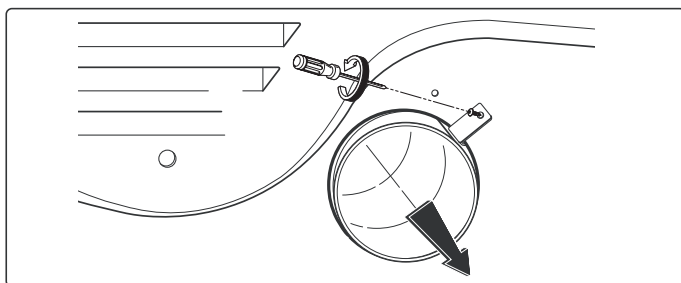
①, ②, and ③ indicate the steps, in order.

3. Replace the removed piece with the short, tabbed duct from the kit and tighten the screw. (The kit is a service part.)

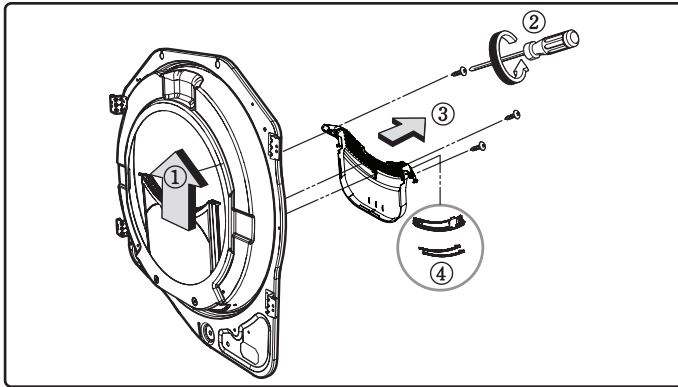
4. Attach the elbow to the other short piece of 4" duct from the kit. Tape the joint.

5. Insert the elbow duct assembly through the side opening and connect the elbow to the internal duct. Tape the joint.

Note : Use real foil duct tape. Do not use the inexpensive canvas and adhesive tape. Improperly labeled duct tape. It will dry out, leak lint, and present a fire hazard.

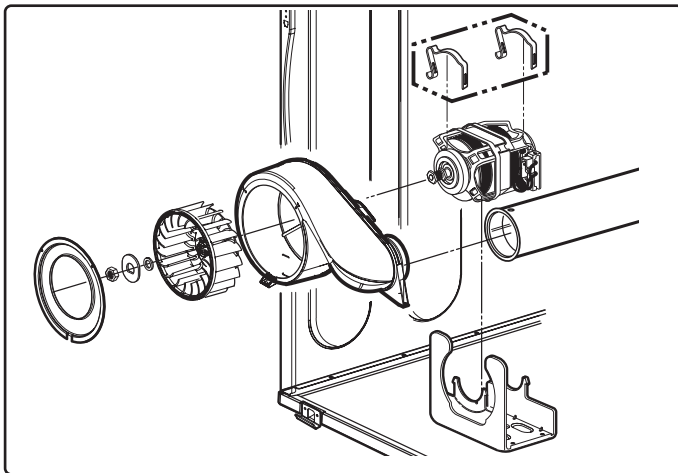


FILTER ASSEMBLY



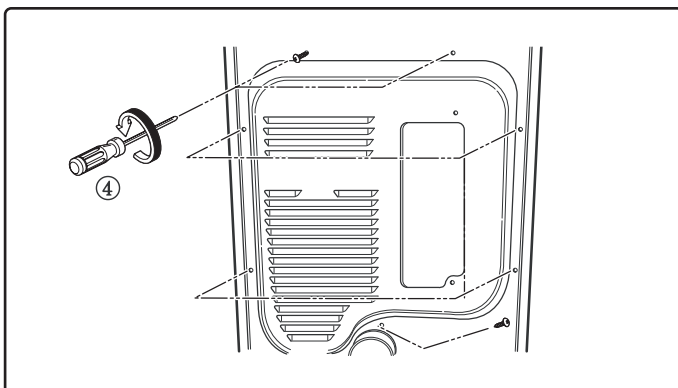
1. Remove the filter.
2. Remove 3 screws.
3. Remove the cover grid.
4. Disconnect the electrode sensor.

BLOWER HOUSING



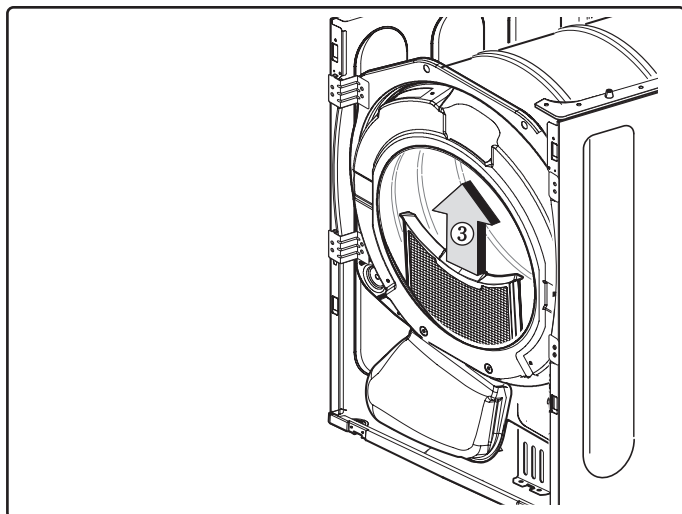
1. Disassemble the top plate.
2. Remove the cabinet cover and front bulkhead.
3. Remove the drum assembly.
4. Remove 2 screws and cover (Air guide).
5. Remove the bolt and washer.
6. Remove the blower wheel. (Left-hand thread!).
7. Disconnect the motor clamp and motor.

BACK COVER

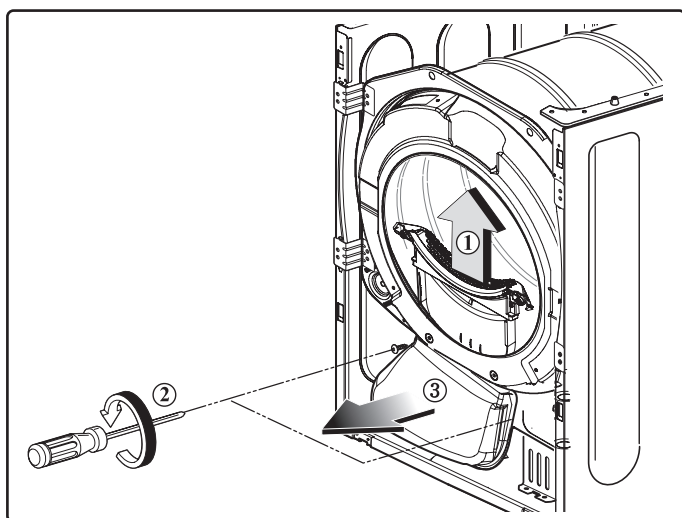


1. Open the top plate.
2. Remove the cover cabinet and front bulkhead.
3. Remove the drum assembly.
4. Remove 7 screws.
5. Pull the rear bulkhead towards the front.

AIR DUCT

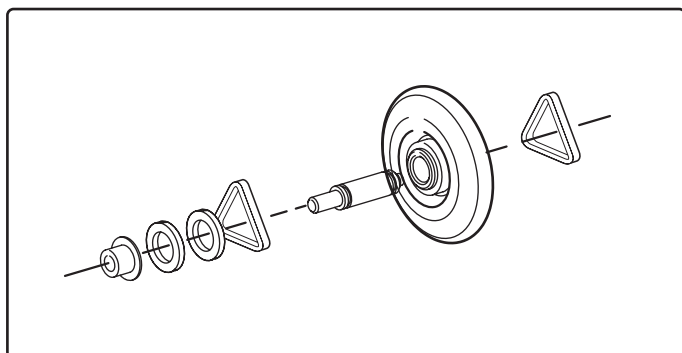


- 1.** Disassemble the top plate.
- 2.** Remove the cover cabinet.
- 3.** Remove the filter.



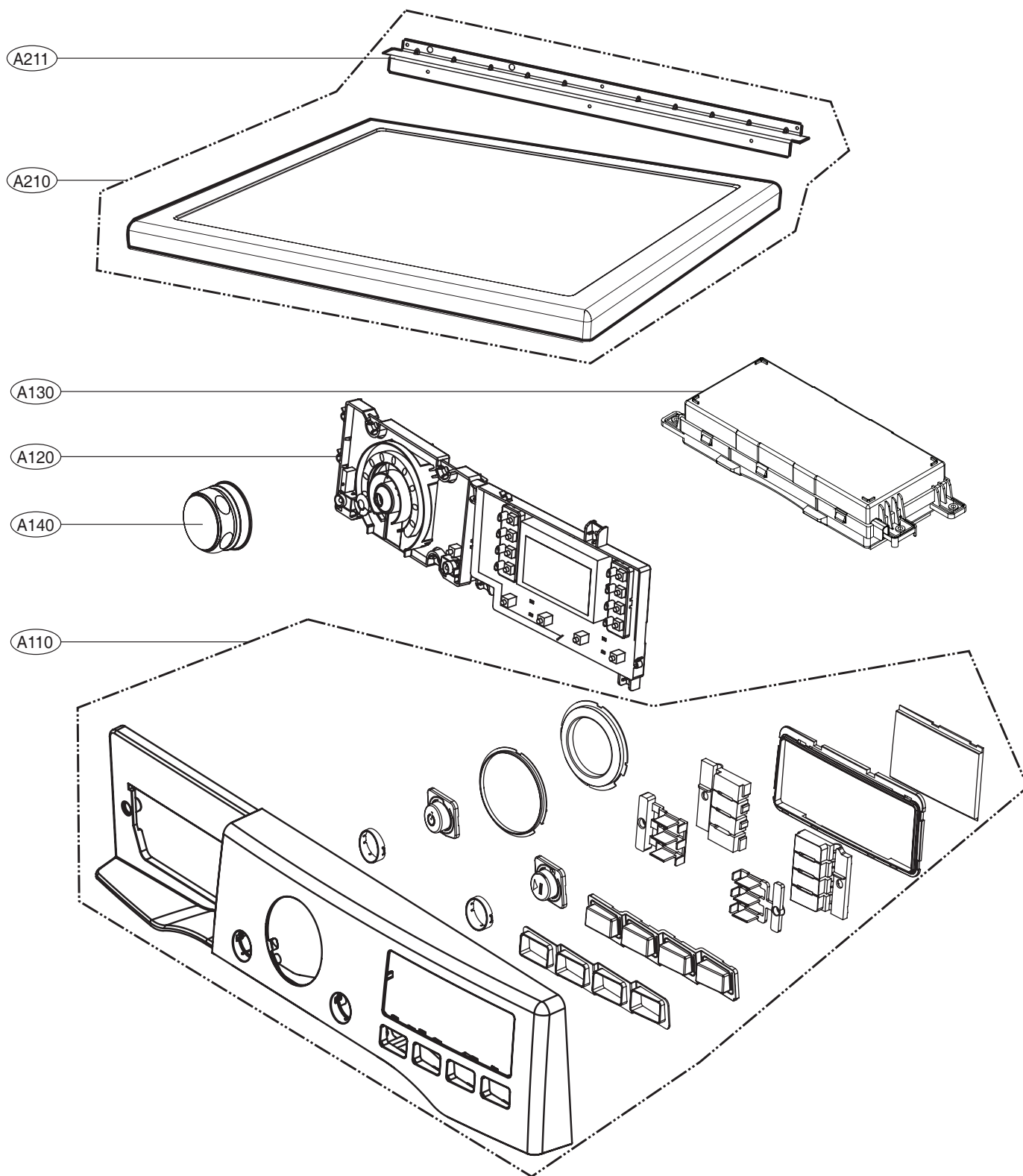
- 1.** Remove the cover guide.
- 2.** Remove 2 screws.
- 3.** Remove the air duct.

ROLLERS

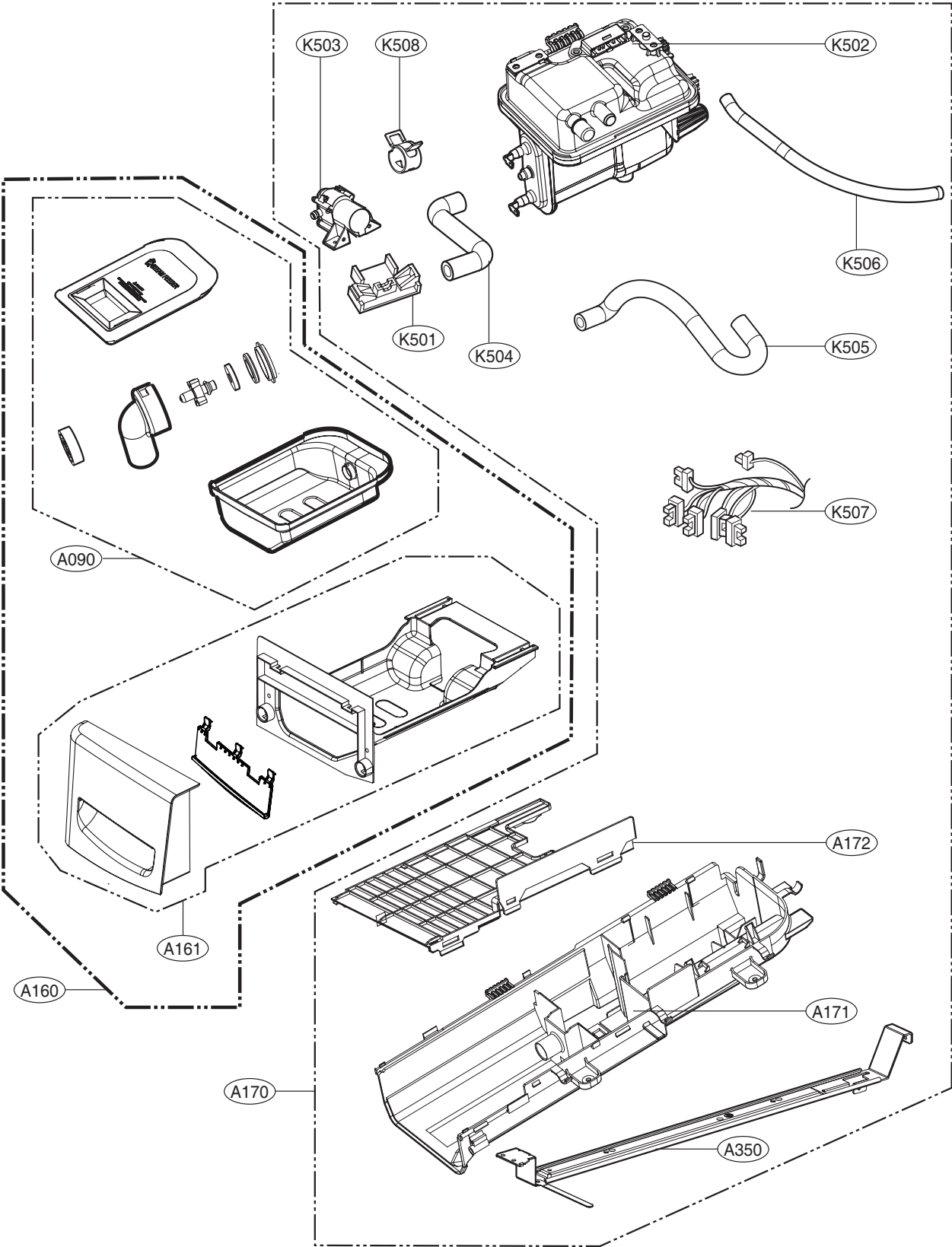


- 1.** Disassemble the top plate.
- 2.** Remove the cover cabinet and front bulkhead.
- 3.** Remove the drum assembly and front bulkhead.
- 4.** Disconnect the air duct from the front bulkhead.
- 5.** Remove the rollers from the front bulkhead and rear bulkhead.

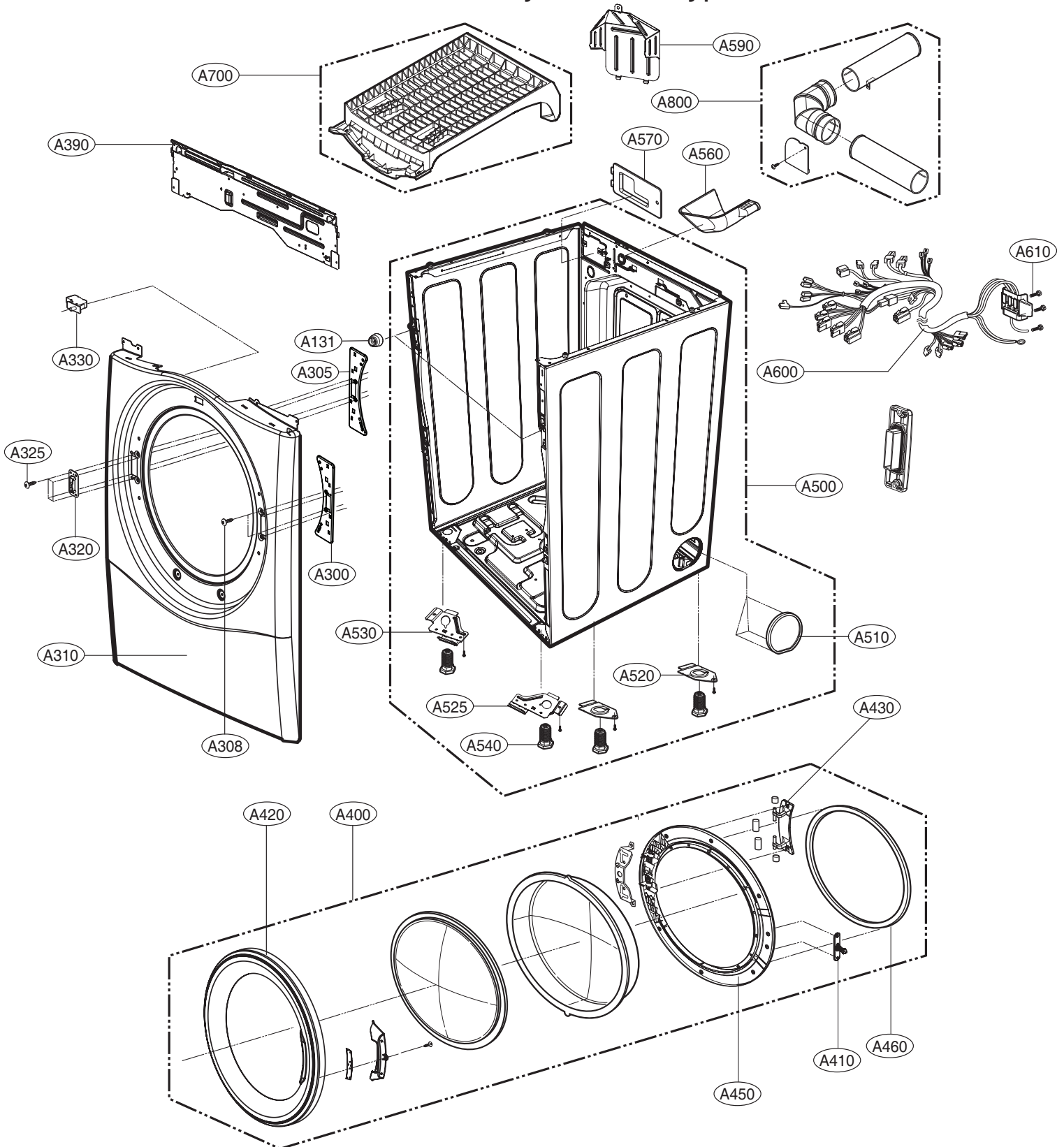
13-1. Control Panel and Plate Assembly



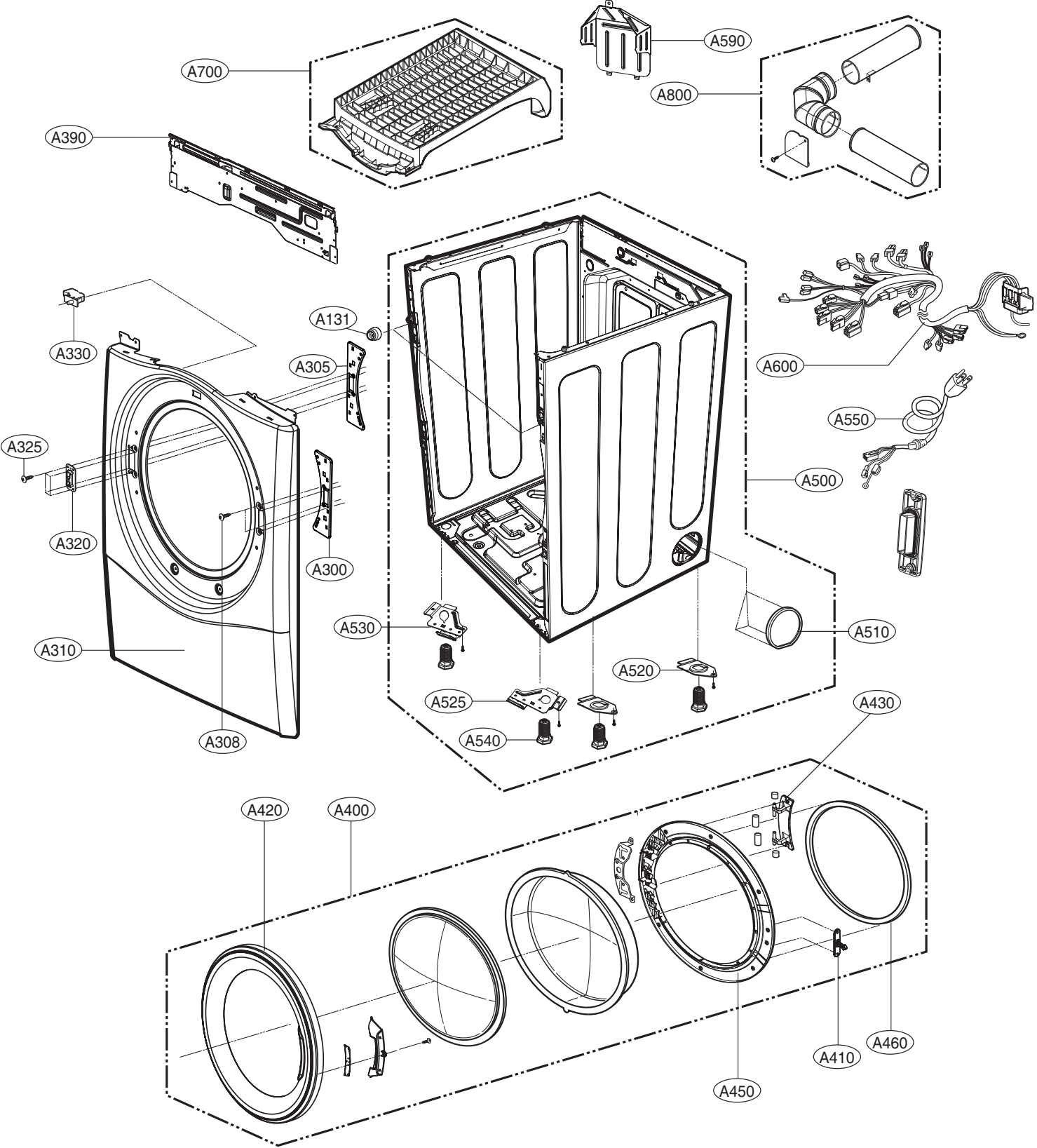
13-2. Panel Drawer Assembly and Guide Assembly



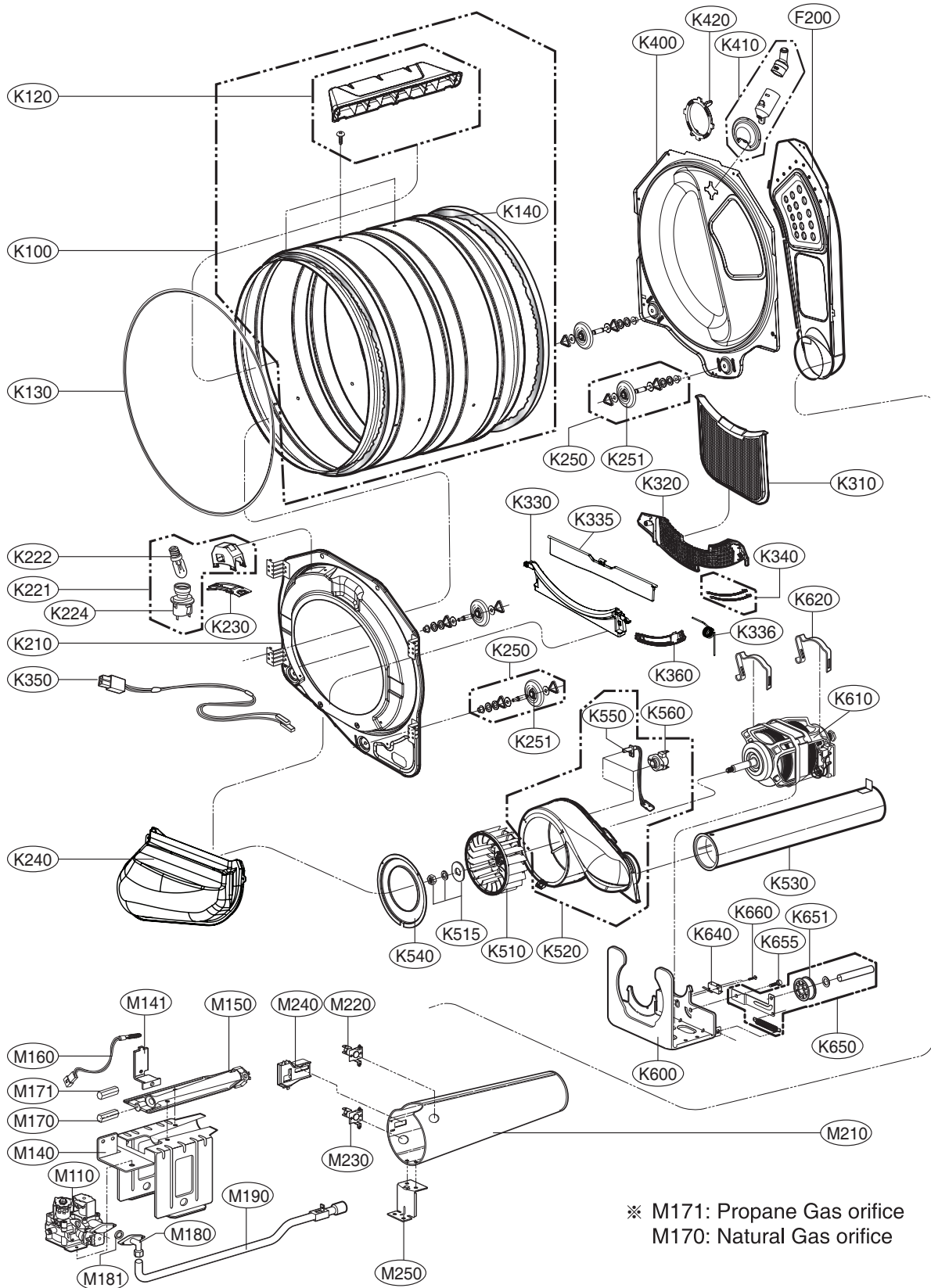
13-3-1. Cabinet and Door Assembly: Electric Type



13-3-2. Cabinet and Door Assembly: Gas Type



13-4-2. Drum and Motor Assembly: Gas Type





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