LG

U.S.A Website: http://us.lgservice.com
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ELECTRIC & GAS DRYER
SERVICE MANUAL

CAUTION

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

DLE1001W DLG1002W

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 personal injury 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 personal injury, 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. To reduce the risk of personal injury, 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 to persons or death.

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.

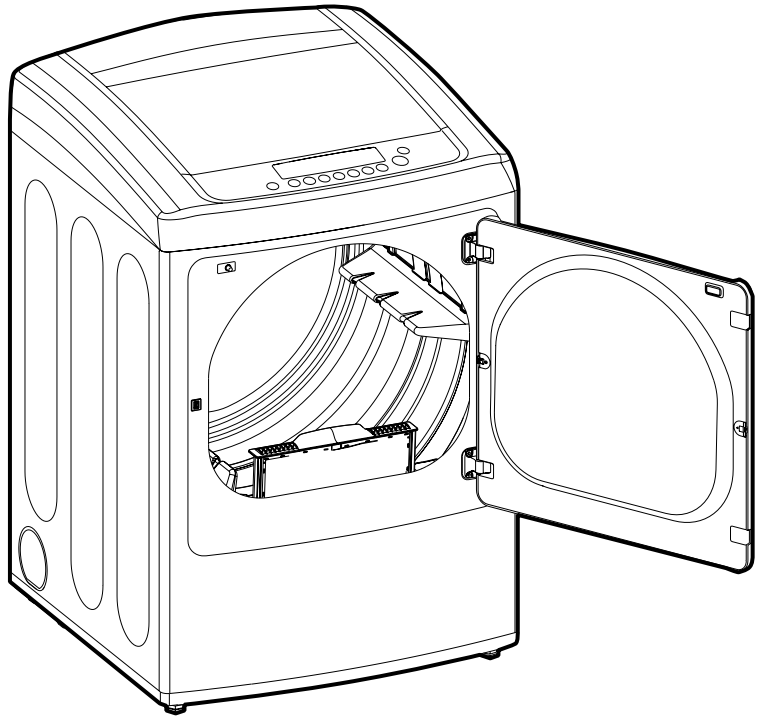
- OR -

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 failed electronic control assembly in anti-static bag, observe above instructions.

CONTENTS

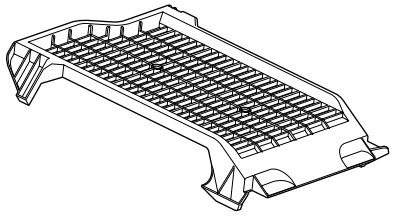
1 SPECIFICATIONS



- Name: Electric and Gas Dryer
- Power supply: Refer to the rating label on the dryer.
  Gas: 120 VAC Electric: 240VAC
- Size: 27″ X 40 3/16″ X 29″ (inch)
- Dryer capacity: IEC 7.3 cu.ft.
- Weight: Electric : 119 lb
  Gas : 121 lb

Specifications are subject to change by manufacturer.

■ ACCESSORIES



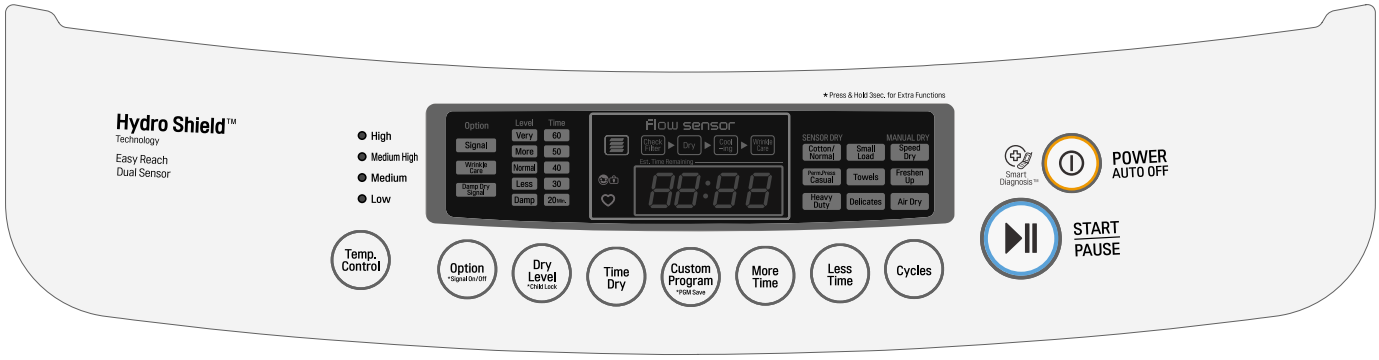
Dryer rack (1 each)

(Sold Separately : Some Model)

See page 6 of this manual for usage instruction.

ITEM		DLE1001W DLG1002W		REMARK
Material & Finish	Color	Blue White		
	Top Plate	Blue White		
	Door Trim	Blue White		
POWER SUPPLY		ELEC.	120/240V 60Hz (26A)/120/208V 60Hz (23A)	
		GAS	120V/60Hz (11.5A)	
ELECTRICITY CONSUMPTION	MOTOR	250W (4.5A)		AC 120V
	HEATER	5400W (22.5A)		AC 240V(ELECTRIC MODEL)
		4100W (21A)		AC 208V(ELECTRIC MODEL)
	LAMP	15 W (0.2A)		AC 120V
	GAS VALVE	13 W (0.11A) x 2		AC 120V(GAS MODEL)
CONTROL TYPE		Electronic		
DRUM CAPACITY		7.3 cu.ft.		
Weight (lbs) - Net		119 / 121		
No. of Programs		9		
No. of Dry Options		6		
No. of Temperature Controls		4		
No. of Dry Levels		5		
Sound levels		1(on/off)		
Sensor	Moisture	Available		Electrode sensor
	Temperature	Available		Thermistor
Reversible Door		Available		
Drum		Alcosta		
Child Lock		Available		
Interior Light		Available		
Product (WxHxD)		27″ x 40 3/16″ x 29″ (inch)		
Packing (WxHxD)		29 ½″ x 40 3″x 30 ¾″ (inch)		

2 FEATURES AND BENEFITS



3 INSTALLATION INSTRUCTIONS

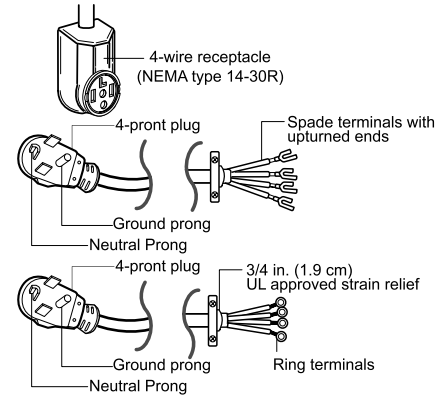
Review the following options to determine the appropriate electrical connection for your home:

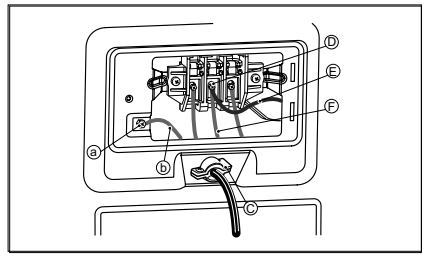
	**4-wire receptacle (NEMA type14-30R)**

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

	**3-wire receptacle (NEMA type10-30R)**

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.





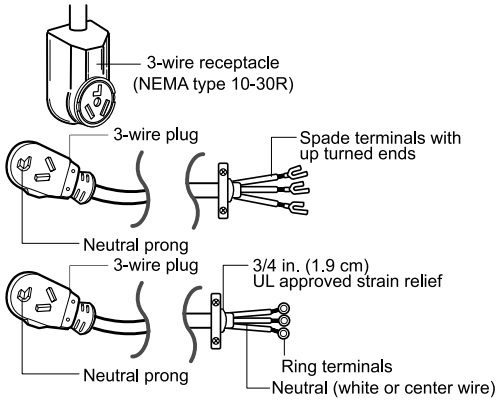
Option 1: 4-wire connection with a Power supply cord.

ï 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.

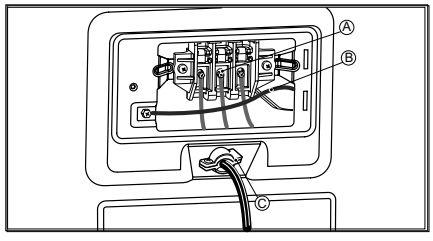
1. Connect the neutral wire (white) of the power cord to the center terminal block screw.
2. Connect the red and black wires to the left and right terminal block screws.
3. Connect the ground wire (green) of the power cord to the external ground screw. Remove the neutral ground wire of appliance and 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

lf 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 **Section 3: Optional 3-wire connection.**



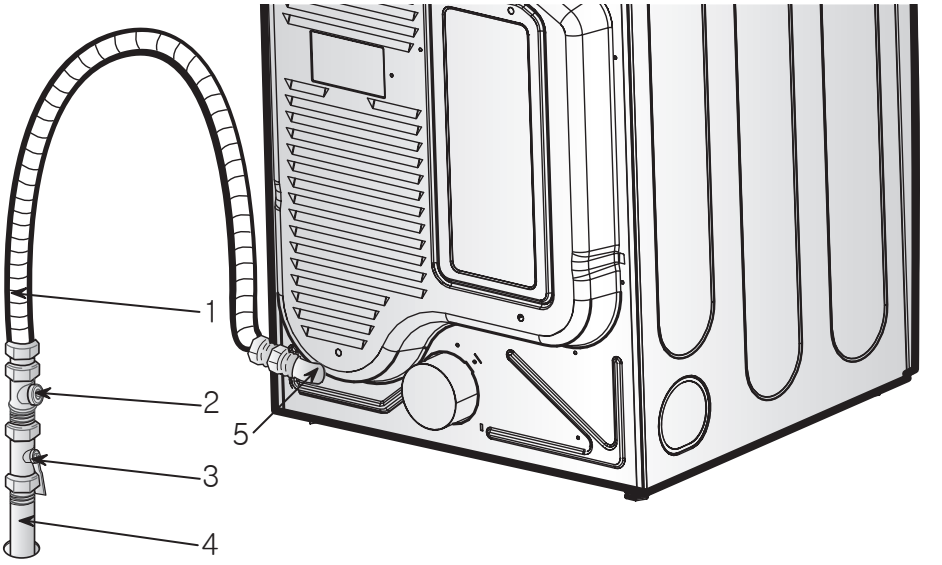
1. Connect the neutral (white or center) wire (B) to the center, silver colored, screw (A) and tighten securely.
2. Connect the other two power cord wires (red and black) to the left and right terminal block screws and tighten securely.
3. Tighten the strain relief screws (C) securely.



Connect Gas Supply Pipe (Gas Dryer ONLY)

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 3/8" N.P.T. 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 & 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)

2 1/8"NPT Pipe Plug (for checking inlet gas pressure)

3 Equipment Shut-Off Valve
-Installed within 6'(1.8 m) of dryer

4 Black Iron Pipe
Shorter than 20' (6.1 m) – Use 3/8" pipe
Longer than 20' (6.1 m) – Use 1/2" pipe

5 3/8" NPT Gas Connection

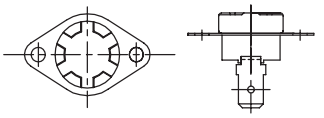
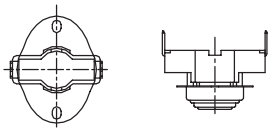
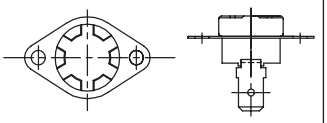
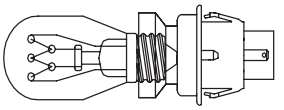
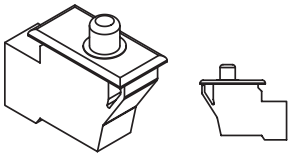
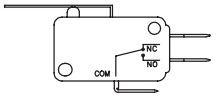
4 DRYER CYCLE PROCESS

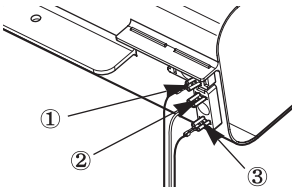
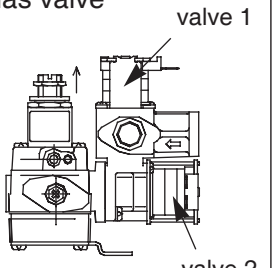
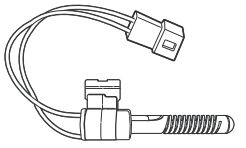
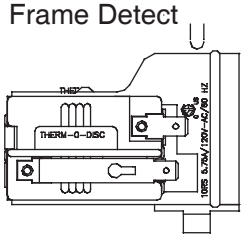
Cycle		Default			Conditions of operation and termination				
					Drying		Cooling		Wrinkle care
		Temp-erature	Dry Level	Display time	Electro-sensor	Temp-Control	Default time	Temp-Control**	Time
Sensor Dry *	HEAVY DUTY	HIGH	Normal / Adjustable	54	Saturation	68±4℃ 155±7℉	5 min.	47±5℃ 113±9℉	3Hr
	PERM PRESS CASUAL	LOW	Normal / Adjustable	32	Saturation	68±4℃ 155±7℉	5 min.	47±5℃ 113±9℉	
	COTTON/ NORMAL	MEDIUM	Normal / Adjustable	41	Saturation	60±4℃ 140±7℉	5 min.	47±5℃ 113±9℉	
	DELICATES	LOW	Normal / Adjustable	28	Saturation	52±3℃ 126±5℉	5 min.	47±5℃ 113±9℉	
	TOWELS	MEDIUM HIGH	Normal / Adjustable	55	Saturation	66±4℃ 151±7℉	5 min.	47±5℃ 113±9℉	
	SMALL LOAD	HIGH	Normal / Adjustable	30	Saturation	68±4℃ 155±7℉	5 min.	47±5℃ 113±9℉	
Manual Dry **	SPEED DRY	HIGH	Off	25min	Saturation	(68±4℃) (155±7℉)	5min	47±5℃ 113±9℉	3Hr
	FRESHEN UP	MEDIUM / HIGH	Off	20min	Saturation	(66±4℃) (151±7℉)	5min	N/A	
	AIR DRY	NO HEAT	Off	30min	Saturation	NO HEATER	5min	N/A	
Load			Heater		→				Off Time: 6min / On Time: 10sec
			Motor		Temperature Control for each cycle				

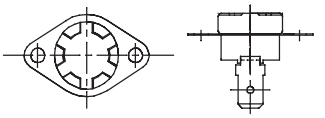
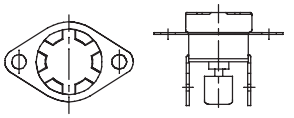
* Sensor dry: Dry Level is set by users.
** Manual dry: Temperature control is set by users.
Default settings can be adjusted by users.

5 COMPONENT TESTING INFORMATION

⚠ 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: N130	Measure resistance of terminal to terminal ① Open at 266 ± 12°F (130 ± 7°C) ②Auto reset 31°F (-1°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 221 ± 9°F (105 ± 5°C)	① Resistance value ≒∞ ② Resistance value < 5Ω	• 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 ± 9°F (85 ± 5°C) ② Close at 149 ± 9°F (65 ± 5°C) Same shape as Thermal cut off.	① Resistance value ≒∞ ② Resistance value < 5Ω	• Blow housing - Safety • Electric type
4. Lamp holder 	Measure resistance of terminal to terminal	Resistance value: 80Ω ~ 100Ω	
5. Door switch 	Measure resistance of the following terminal 1) Door switch knob: open ① Terminal: COM - NC(1-3) ② Terminal: COM - NC (1-2) 2) Door switch push: push ① Terminal: COM - NC (1-3) ② Terminal: COM - NC (1-2)	① Resistance value < 1Ω ② Resistance value ≒∞ ① Resistance value ≒∞ ② Resistance value < 1Ω	The state that knob is pressed is opposite to open condition.
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 ~ (10~40°C) 58°F ~ 104°F (10~40°C)	Resistance value: 10Ω	• Heater case Hi limit • Electric type
9. Motor			• See Page 13
10. Gas valve 	Measure resistance of the following terminal ① Valve 1 terminal ② Valve 2 terminal	Resistance value : 1.5~2.5kΩ	• Gas type
11. Igniter 5318EL3001 	Measure resistance from terminal to terminal.	Resistance value : 100~800kΩ	• Gas type
12. Frame Detect 	Measure resistance of termina 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 ± 7°F (95 ± 5°C) ② Close at 159 ± 9°F (70 ± 5°C)	① Resistance value ≒∞ ② Continuity < 1Ω	• Gas type • Gas funnel
14. Outlet Thermostatt (Manual reset)  • Check Top Marking: N110	Measure resistance of terminal to terminal ① Open at 212 ± 12°F (110 ± 7°C) ② Manual reset	If thermal fuse is open must be replaced ① Resistance value ≒∞ ② Continuity < 1Ω	• Gas type • Gas funnel

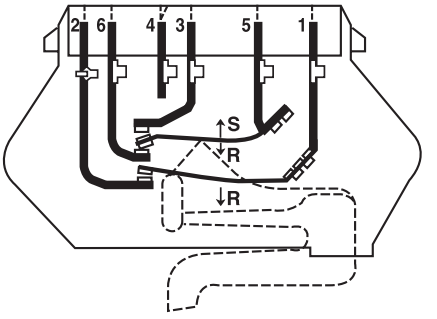
6 MOTOR DIAGRAM AND SCHEMATIC

NOTE When checking Component, be sure to turn Power off, then do voltage discharge sufficiently.

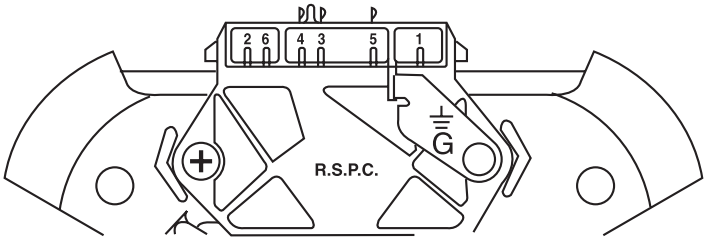
■ Contact On / Off by Centrifugal Switch

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)

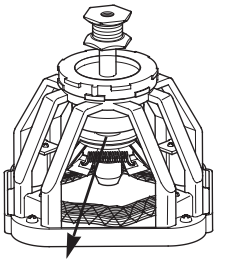
····· Open
——— Close



SWITCH SHOWN IN START POSITION

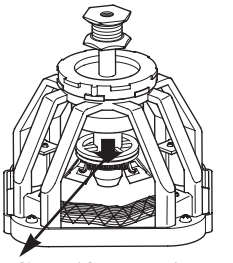


■ STOP MODE
(When Motor does not operate)



Centrifugal switch

■ .RUN MODE
(Motor operates)

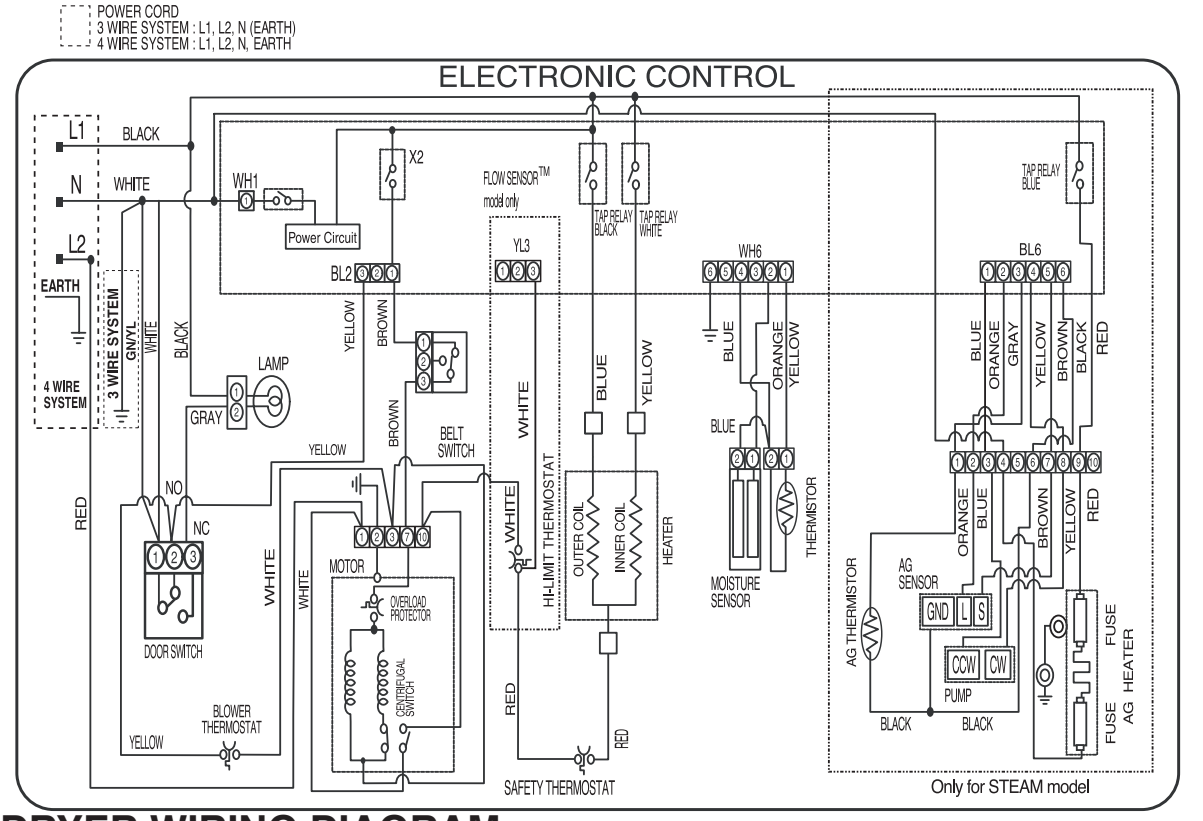


Centrifugal switch
(Pull Drive forward)

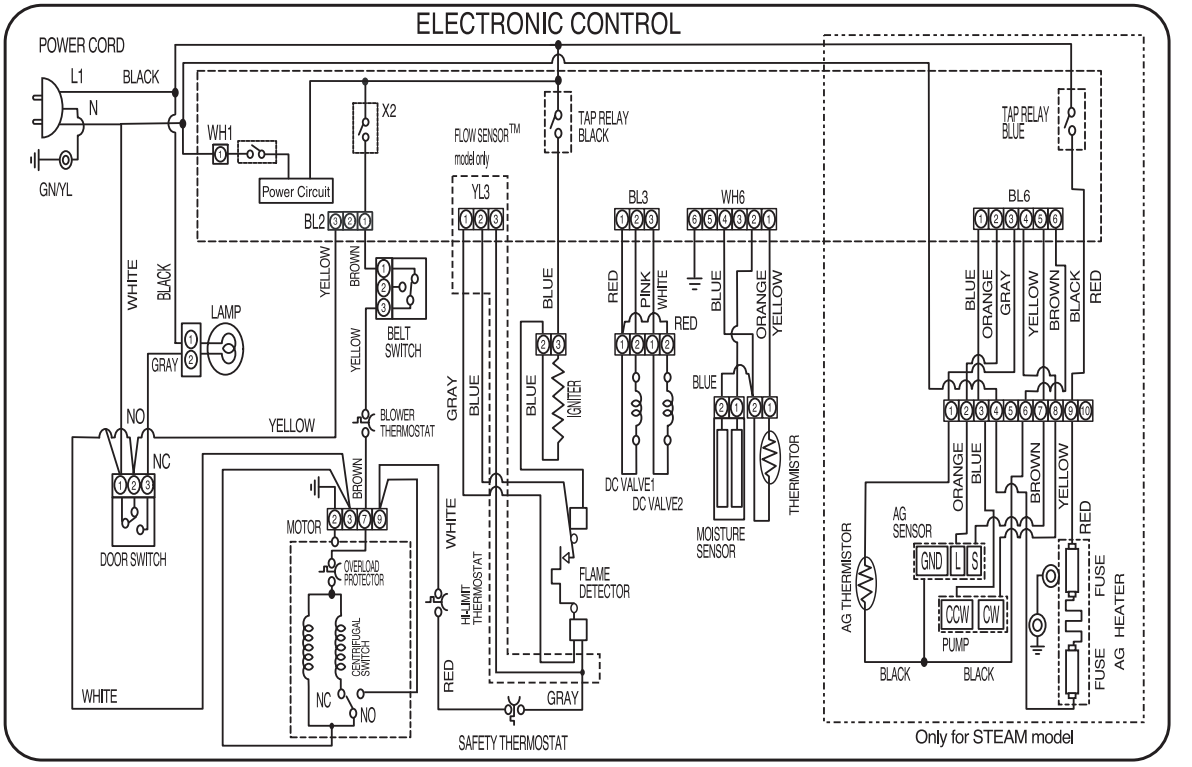
7 WIRING DIAGRAM

⚠ CAUTION Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangrous operation. Verify proper operation after servicing.

ELECTRIC DRYER WIRING DIAGRAM



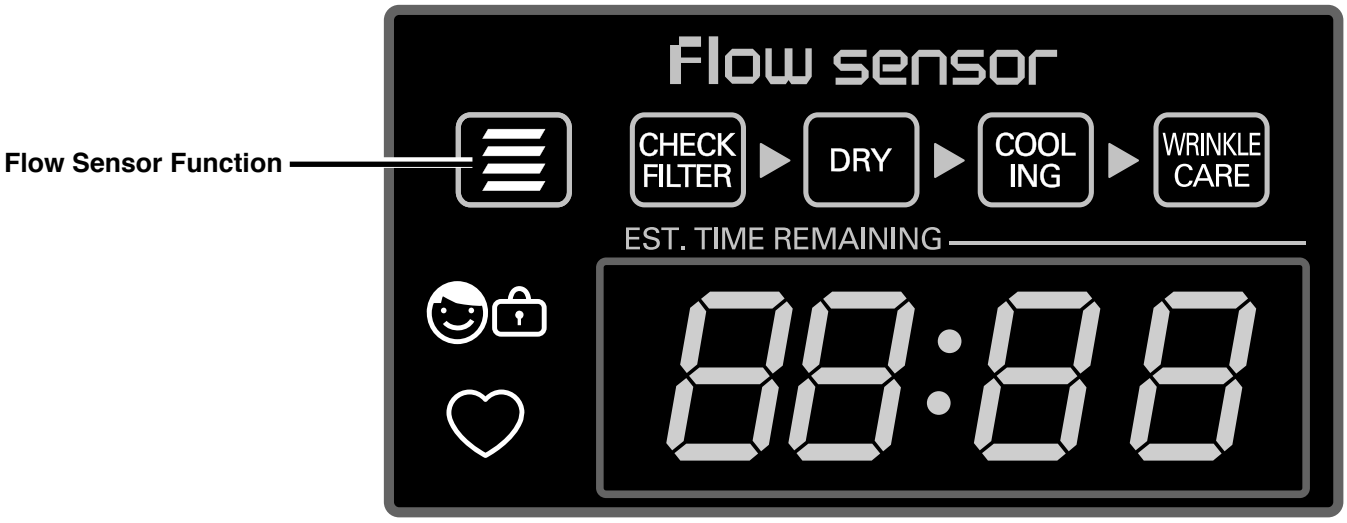
GAS DRYER WIRING DIAGRAM



8 FLOW SENSOR FUNCTION

8-1 Flow sensor

This FlowSense™ function detects the clogging or blocking of ducts.
Clogged duct vents or hoses decrease e fficiency in drying clothes. Clogged vents can also cause fire.
This function alarms you, when to clean the ducts.
When the alarm about duct clogging is on display of the panel, your duct vents should be cleaned by yourself or serviceman.



8-2 Installation test

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 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.

To activate the Installation test:

1. Press and hold TEMP.CONTROL and OPTION buttons at the same time. While holding these buttons, press POWER ON/OFF

2. The dryer will show InS in the number display to indicate that it is in duct condition testing mode.

3. Press the START/PAUSE button.
   The dryer will run for approximately 2 minutes to test for blockages or restrictions to air flow in the ductwork.

Check the display for results.
During the two minute test cycle, monitor the FLOW SENSE display on the control panel. If FLOW SENSE is displayed, when the cycle ends, the exhaust system is adequate. If the exhaust system is severely restricted, the display will show FLOW SENSE. Other problems may also be shown with error codes. Refer to the next page for error code details and solutions.

Lighting : Restricted

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

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.

Installation test (Exhaust check) (cont.)

- **Check the Error Code before you call for service**

Error Code	Possible Causes	Solutions
tE	• Temperature sensor failure	• Turn off the dryer and call for service.
HS	• Humidity Sensor failure.	• Turn off the dryer and call for service.
PS , 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 FLOW SENSE, check the exhaust system for restrictions and damage. Repair or replace the exhaust system as needed.

NOTE

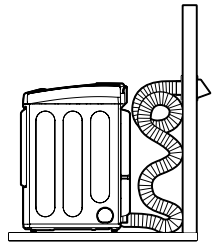
When the dryer is first insralled, this test should be performed to alert you to any existing problems with the exhaust duct in your home. However, since the test performed during normal operation provides more accurate information on the condition of the exhaust duct than does the installation test,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

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

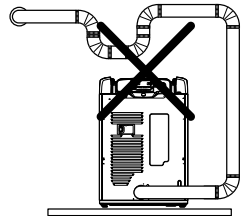
Even if FLOW SENSE is not displayed during the test cycle, some restrictions may still be present in the exhaust system.
Refer to the Venting the Dryer section of this manual for complete exhaust system and venting requirements.

Restricted or blocked airflow

Avoid long runs or runs with multiple elbows or bends.

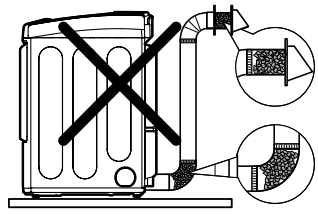


Excess or crushed transition duct

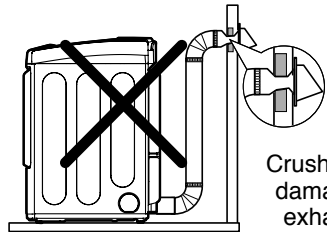


Too many elbows or exhaust too long

Check for blockages and lint buildup.



Make sure the ductwork is not crushed or restricted.



Crushed or damaged exhaust

8-3 Troubleshooting for flow sensor dryer

1. FLOW SENSE indicator light is on

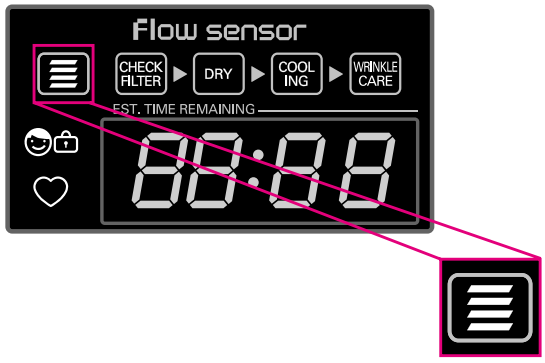
Is lint filter full?	Yes	Clean lint filter before every load
No		
Is duct clogged?	Yes	Check & clean duct.

2. FLOW SENSE indicator light is on and does not disappear.

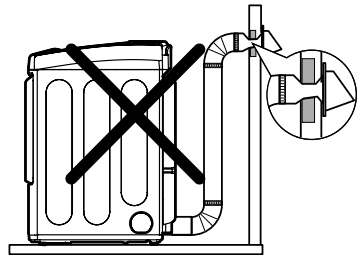
1. FLOW SENSE indicator light is on even when vents have been clean and even when the vents are off.
   → **This is Normal.** After flow sensor recheck full next cycle, flow sensor is reset.
   (Flow sensor bars will disappear after dryer has operated two cycle)

■ Bars Are Displayed but Don't Disappear

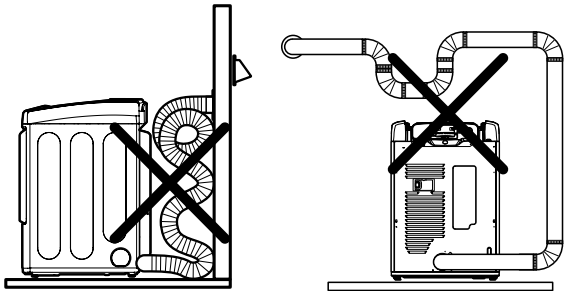
*Control Panel



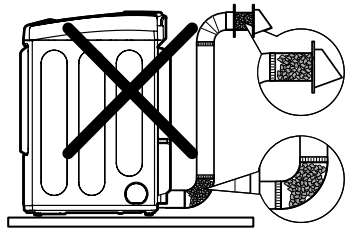
Make sure that the ductwork is not crushed or restricted.



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



Check for blockages and lint build up.



9 DIAGNOSTIC TEST

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

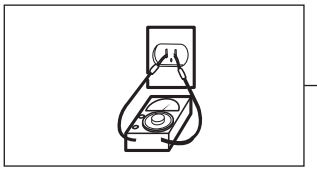
1. UNIT must be in standby (unit plugged in, display off)
2. Press POWER while pressing MORE TIME and LESS TIME simultaneously.
3. Press START/PAUSE button to advance through diagnostics.

Pressing the START/PAUSE	CHECKING ACTION	DISPLAY	CHECKPOINT
None	Electric control & Temperature sensor	1HE(Elec. Type) 1H9(Gas Type)	Standard
		U-	MAIN PGM
		d-	DISPLAY PGM
		tE	Thermistor open
			Thermistor shorted
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 below180 in normal condition
Twice	■ELECTRIC TYPE Motor+Heater1(2700W) ■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+Heater1+Heater2 (5400W) ■GAS TYPE Motor+Gas valve	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	OO	
5 times	Loads off, Controller off		Power off

✳ To check pump operation:
At the fourth press of 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 and avoid an electric shock
Trouble Symptom	No power was applied to controller. (LED, LCD Display off)
Measurement Condition	With dryer power on; connector linked to controller.

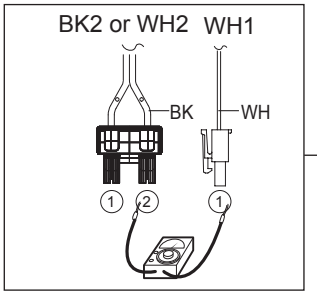


Check the outlet, is the voltage 110V ~ 125V AC?

NO

- Check the fuse or circuit breaker.

YES

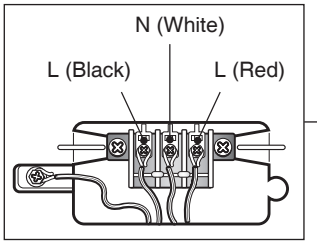


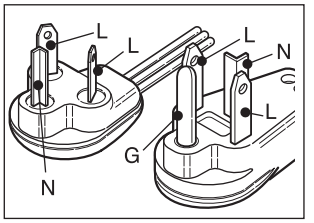
Check if the voltage measured between Connector BK2 or WH2-② (Black Wire) Linked to the Controller and WH1-① (White Wire) Is 110~125V?

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 neutral line match to centerterminal N neutral line?

NO

- Reconnect the controller.

YES

Replace controller.

■ Test 2 Thermistor Test --- Measure with Power Off

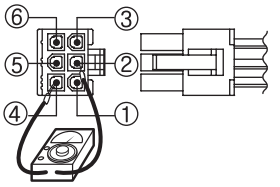
Disconnect the NA6 connector from the main PCB.

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, wires and ground screws.

YES

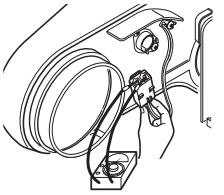
Take the 6 pin Connector from the Controller.



Measure the resistance between the NA6-1 (RD) and NA6-4 (BL). Does the resistance measured match the temperature of the thermistor in the chart? (Use room temperature unless the thermistor is warm from running the dryer.)

YES → •Replace the main PCB

NO



Disconnect the thermistor from the harness connector and measure the resistance of the thermistor. Does the resistance measured match the temperature of the thermistor in the chart? (Use room temperature unless the thermistor is warm from running the dryer.)

NO → •Replace the thermistor

YES

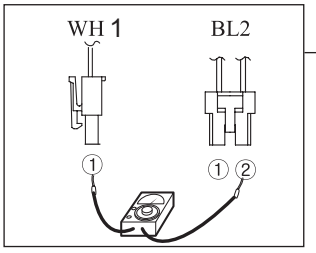
•Measure resistance of all wires. Resistance should be < 0 Ω.
•Check all thermistor harness connectors for corrosion, loose/bent pins, broken wires, etc.
•Check all harness wires for cuts, or broken wires.

■ Thermistor temperature/resistance chart (±5%)

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

■ Test 3 Motor test

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



Is resistance below 3Ω between Connector WH① (White wire) and BL2-② (Brown wire)?
※ Measure while door is closed.

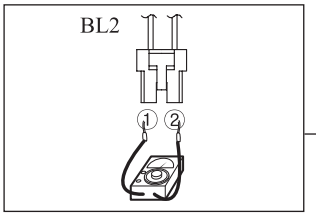
YES → • Replace Control. (Relay check) • Check Controller connector.

NO

Is resistance below 3Ω between Connector WH① (White wire) and BL2-① (Yellow wire)?
※ Measure while door is closed.

NO → • Check if Door flame presses door switch knob. • Check Door Switch. • Check Harness connection.

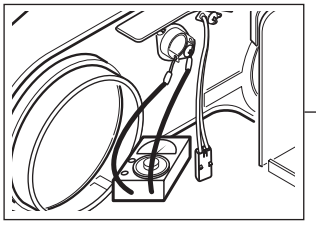
YES



Is resistance below 3Ω between Connector BL2-① (Yellow wire) and BL2-② (Brown wire)?

YES → • Replace Control. (Relay check) • Check Controller connector.

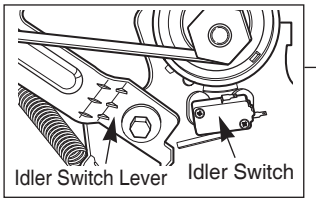
NO



Is resistance below 1Ω between terminals of Outlet Thermostat attached to blower housing?

NO → • Replace Outlet • Thermostat. (Refer to 'Component')

YES



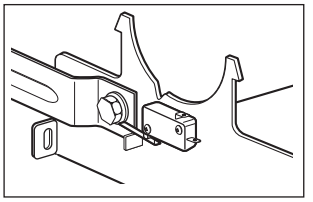
Does Idle Switch attached to Motor Bracket operate Level by drum belt? (Not operating Lever is normal.)

YES → • Check Idler Assembly. • Drum Belt cuts off • Drum Belt takes off from Motor Pulley.

Is resistance below 1Ω between Idler Switch terminals?

NO → • Replace Idler Switch.

YES



- Check Motor. (Refer to 'Motor Diagram & Check')
- Check if Control Connector is contacted.

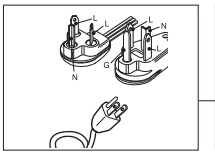
■ Test 4 Moisture sensor

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 on page 18.)
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 239).
8. If this test fails, proceed with the MECHANICAL TEST below.

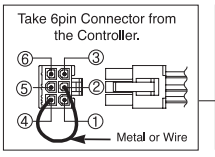
MECHANICAL TEST



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

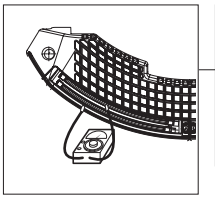
NO → • Check all wiring harness connections, wires and ground screws.

YES



Put a jumper between NA6-2 (OR) and NA6-4 (BL) to create a circuit connection for the continuity test in the next step.

YES



Measure the resistance between the two moisture sensor bars on the in the lint filter housing inside the drum. Is the resistance <1 Ω?

YES → • Replace the main PCB.

NO

Check all connections and wires between the NA6 terminal at the main PCB and the sensor bars. Check the resistance is 0Ω.

YES

- Measure the resistance of all wires. Resistance should be < 1 Ω.
- Check all sensor harness connectors for corrosion, loose/bent pins, broken wires, etc.
- Check all harness wires between the main PCB and the sensor for cuts, or broken wires.

■ 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.

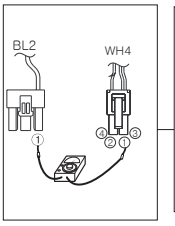
FUNCTIONAL TEST (Control)

1. Enter the diagnostic mode. (See DIAGNOSTIC TEST MODE on page 18.)
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.

MECHANICAL TEST

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 ?

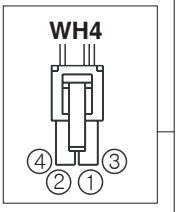
NO



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 Ω with the door closed and ∞ Ω with the door open?

YES → • Replace the main PCB.

NO



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

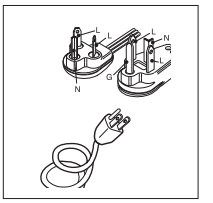
Disconnect the WH4 and the black tab relay connectors from the main PCB. Measure the resistance between WH4-1(YL) and WH4-1 (BK). Is the resistance <1 Ω with the door opened and ∞ Ω with the door closed?

NO → • Replace the light bulb. • Replace the light socket.

YES

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

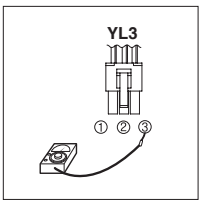
■ Test 6 Heater switch test - Electric Type



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 YL3-3 (WH) and the YL wire on the black 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 YL3-3 (WH) and the BL 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 YL wire on the black tab relay and the BL 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 ↓

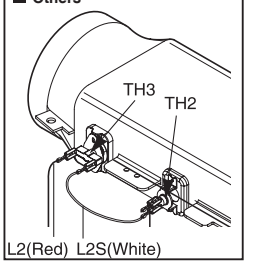
Measure the resistance between terminals 1 (RD) and the heater housing. Is the resistance Ω ?

NO → • Replace the element.

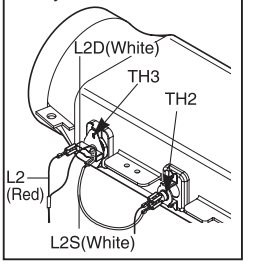
YES ↓

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

■ Others



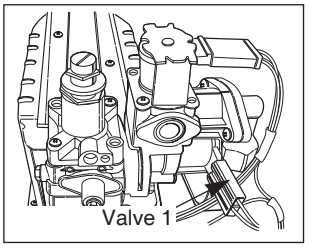
■ Only for CHECK VENT model

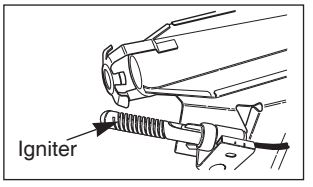


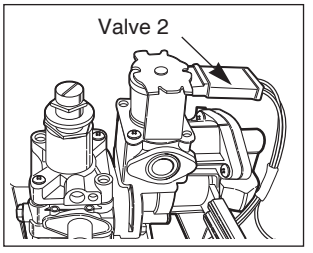
※ Wires
- L2(Red)
- L2D(White) : Go to the duct(YL3 in main pcb)
- L2S(White) : Go to the safety.

■ 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







Power on & start (Normal cycle)

NO

When measuring Valve 1 voltage, More than DC 90V? **NO** → • Check thermostat hi-limit safety

YES

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

YES

When measuring Valve 2 voltage, value is more than DC 90V? (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 ~ 2.5kΩ? (Measure after off) **YES** → • Change valve

NO

If valve 1 and valve 2 are under DC 10V, valves are Off? **NO** → • Change valve

YES

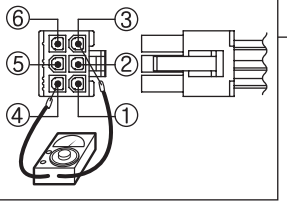
• Harness check
• Controller change

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 earth line.)
Trouble Symptom	Degree of Resistance is not in 300°æ30 Ω
Measurement Condition	Turn the Dryer's Power Off, then measure resistance.

Take 6pin Connector from the Controller.



When measuring resistance ③−④, ④−⑤
Is resistance 300± 20 Ω?

NO

- Check Semi-conductor and Harness Connector
- Check Harness linking connector

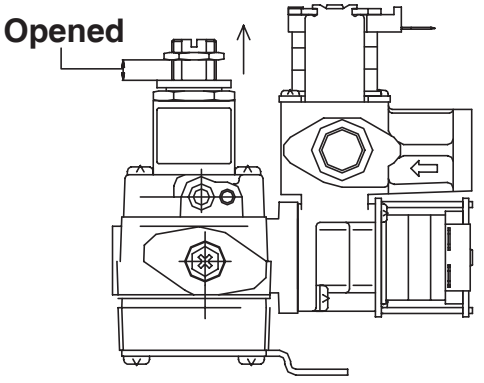
YES

10 CHANGE GAS SETTING (NATURAL GAS, PROPANE GAS)

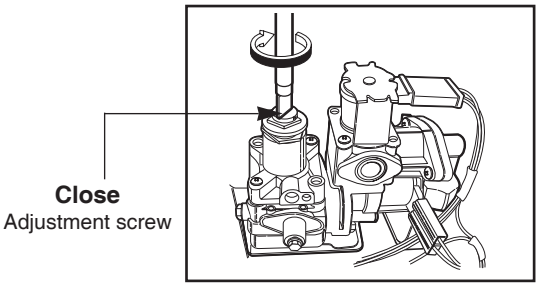
⚠ Warning *Changing orifices and gas valve adjustments improperly can result in an explosion and/or fire. Conversion must be made by a qualified technician.*

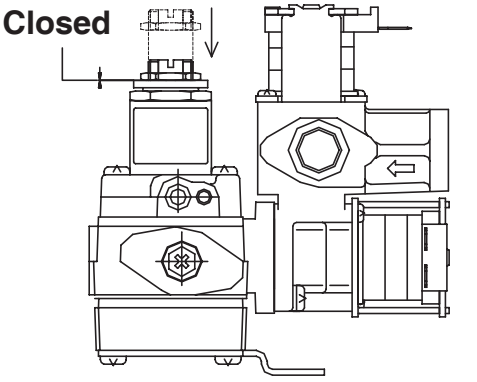
Initially, The burner is set for natural gas at the factory. The propane orifice conversion kit is sold as a service part to autherized servicers only. Part numbers are shown below.

STEP 1 : VALVE SETTING

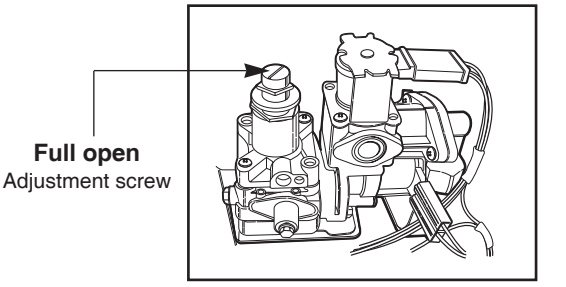


NATURAL GAS SETTING

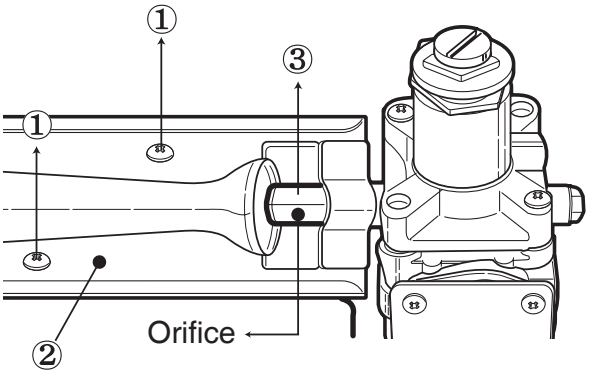




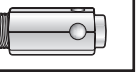
PROPANE GAS SETTING



STEP 2 : ORIFICE CHANGE

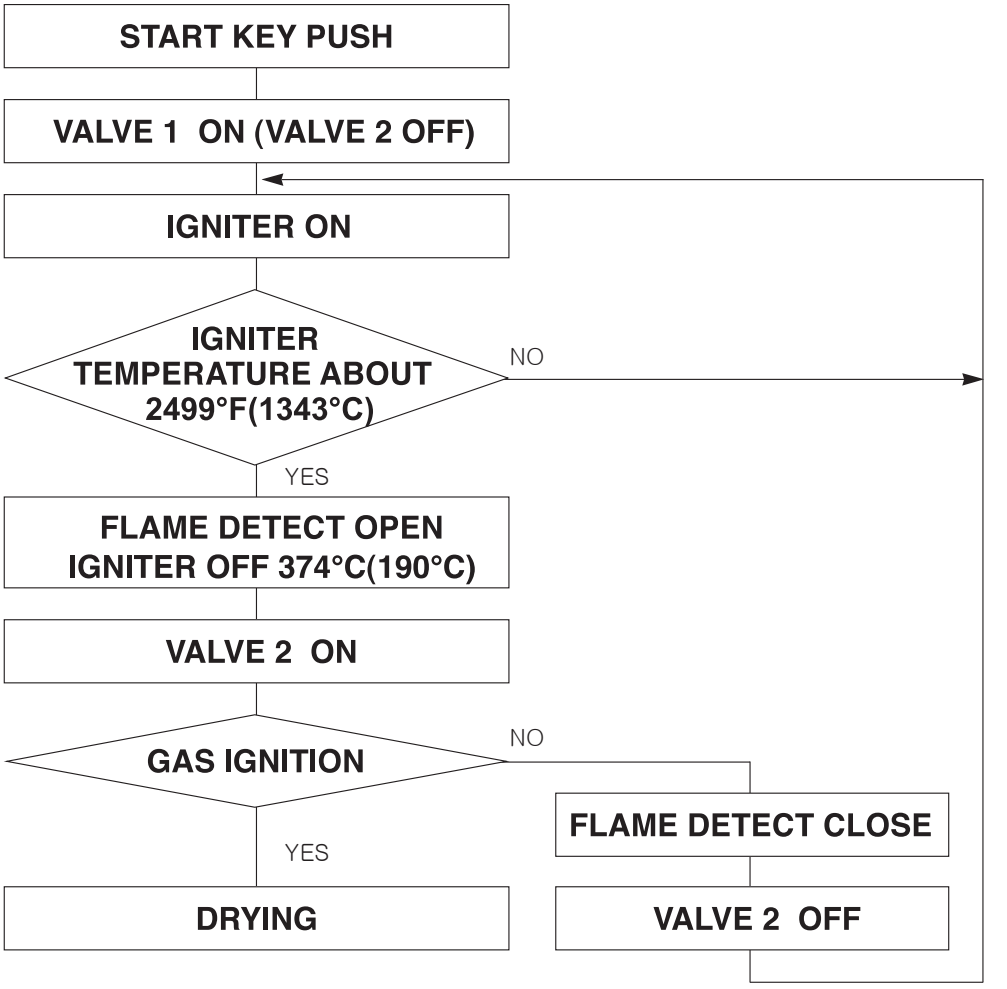


① Remove 2 screws.
② Disassemble the pipe assembly.
③ Replace Natural Gas orifice with Propane Gas orifice.

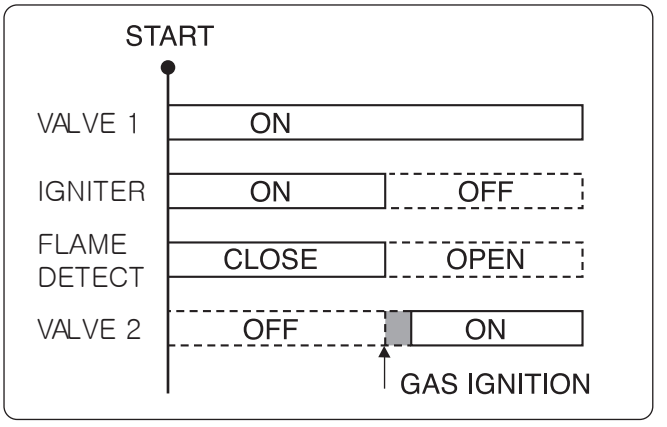
Gas type	Orifice P/No	Marking	Shape
Natural Gas	4948EL4001B	NCU	
Propane Gas	4948EL4002C	PCK	

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

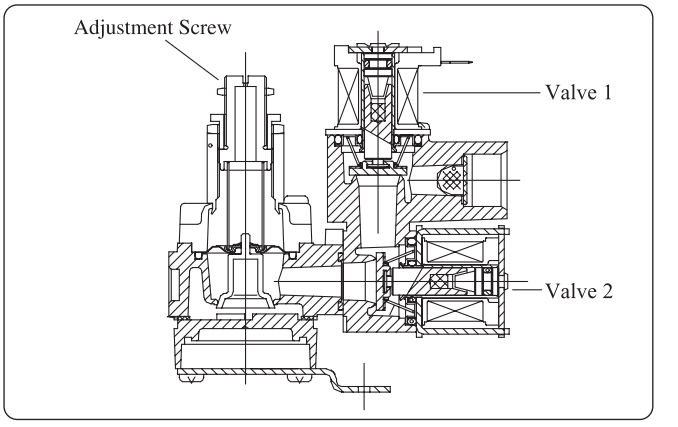
■ GAS VALVE FLOW



GAS IGNITION



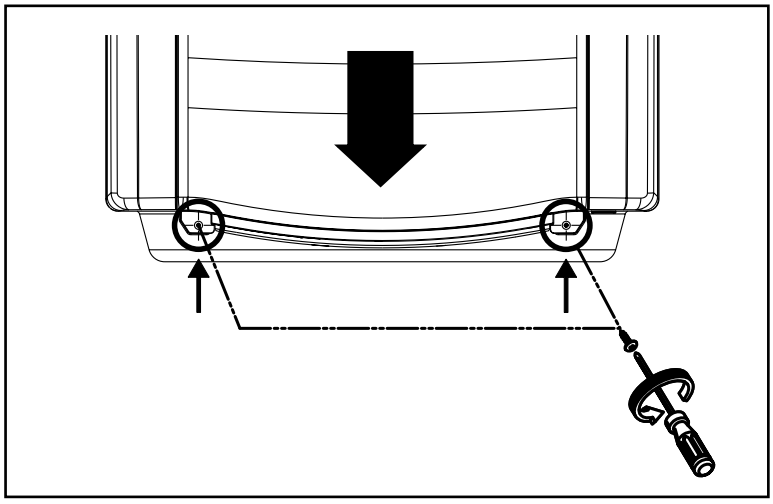
GAS VALVE STRUCTURE



11 DISASSEMBLY INSTRUCTIONS

※ Disassemble and repair the unit only after pulling out power plug from the outlet.

TOP PLATE

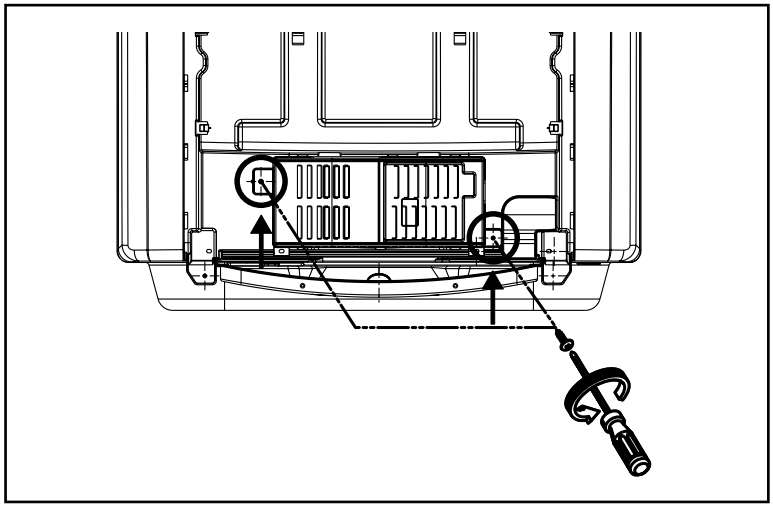


⚠ WARNING!

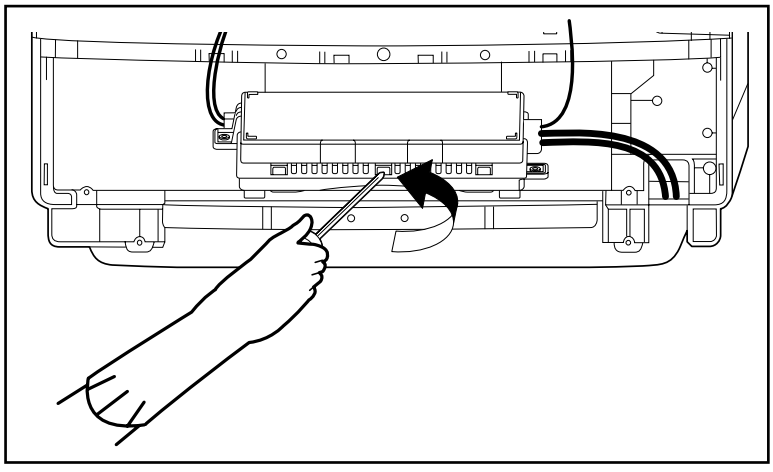
When you disassemble the Dryer, be sure to disconnect the dryer from its electrical supply. Protect your hands and arms from sharp edges when working. To reduce the risk of personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Remove the 4 screws on the top plate.
2. Pull top plate backward from the front panel assembly.
3. Lift and disassemble the top plate from the top cover assembly.

MAIN PCB

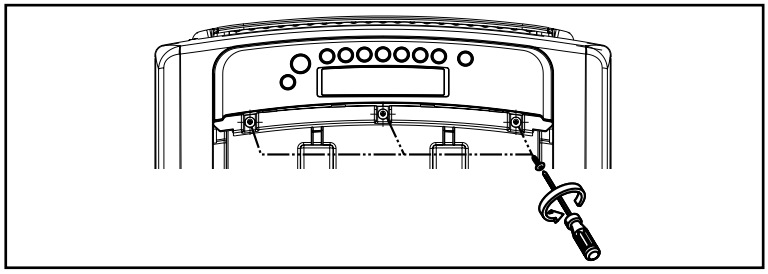


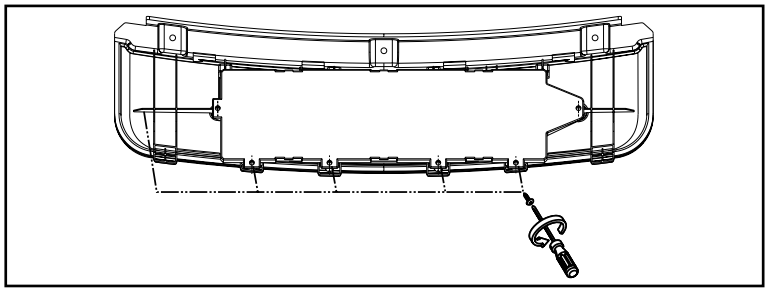
1. Remove the 2 screws that hold the PCB box in place.



2. Slide the PCB box toward the rear of the dryer and lift out.
3. With a flat blade screwdriver, press the tabs on the side of the PCB box and gently pry it open.
4. Disconnect the wiring from the PCB board then remove the PCB board.

CONTROL PANEL



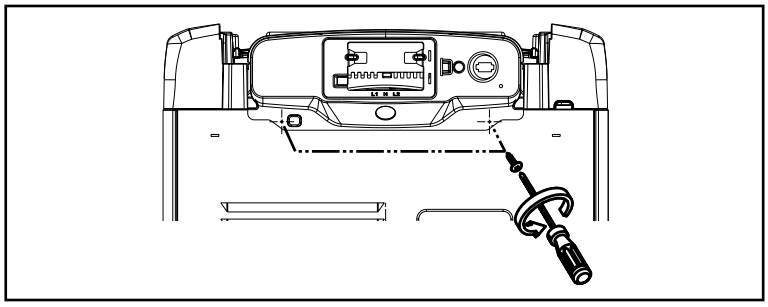


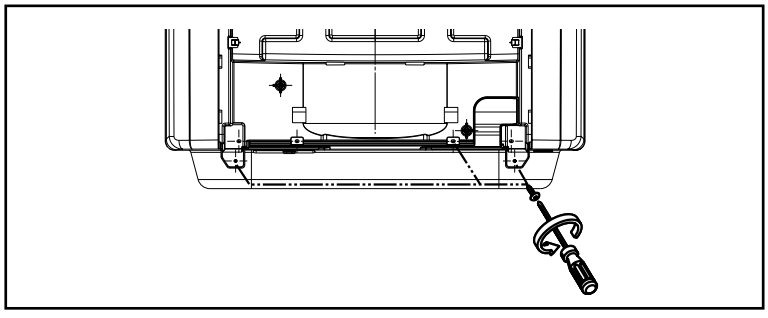
⚠ WARNING!

When you disassemble the Dryer, 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Romove the 3 screws on the front panel assmbly.
2. Remove the 5 screws on the PCB assembly from the back of the front panel assembly.
3. Disassemble the front panel assembly.

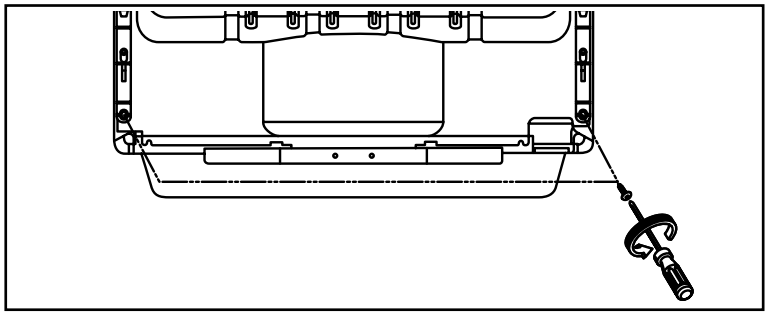
TOP COVER





1. Remove the 2 screws on the rear panel.
2. Lift and disassemble the rear panel frome the top cover assembly.
3. Remove the 3 screws that hold the top cover in place.
4. Lift the top cover and slide it forward to clear the front tabs.

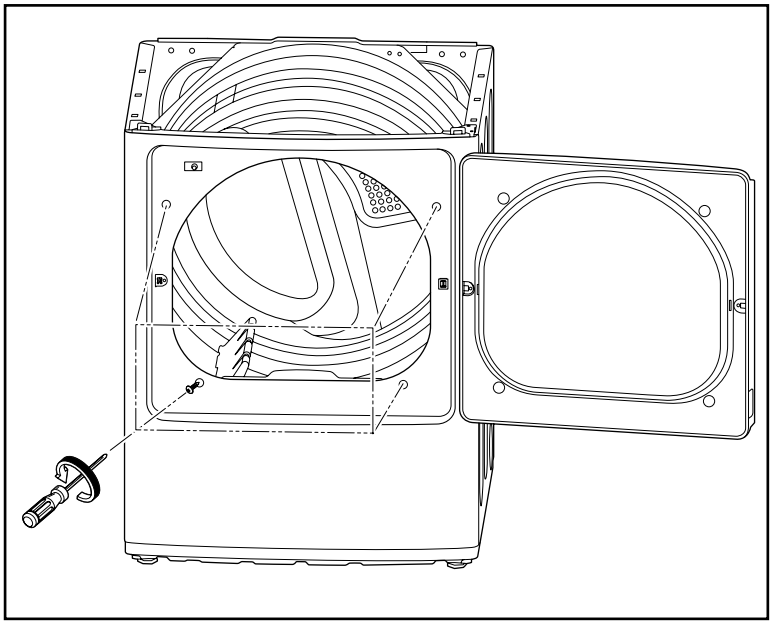
TOP PLATE



※The inner top plate is held in place by 2 screws(1 on each side) and the 2 plastic holders.

1. Remove the 2 screws on the top plate that hold the 2 plastic holders.
2. Lift the 2 plastic holders and slide it forward to clear the 3 tabs
3. Lift the top plate.

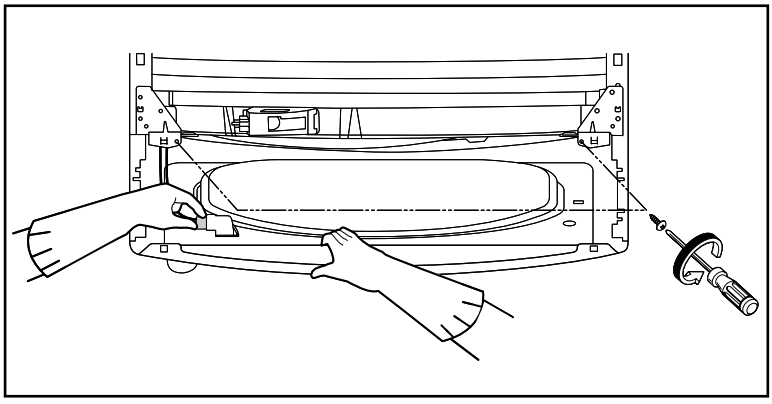
CABINET COVER



⚠ WARNING!

When you disassemble the Dryer, 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Open the door and remove the 4 screws from the cabinet cover then close the door.

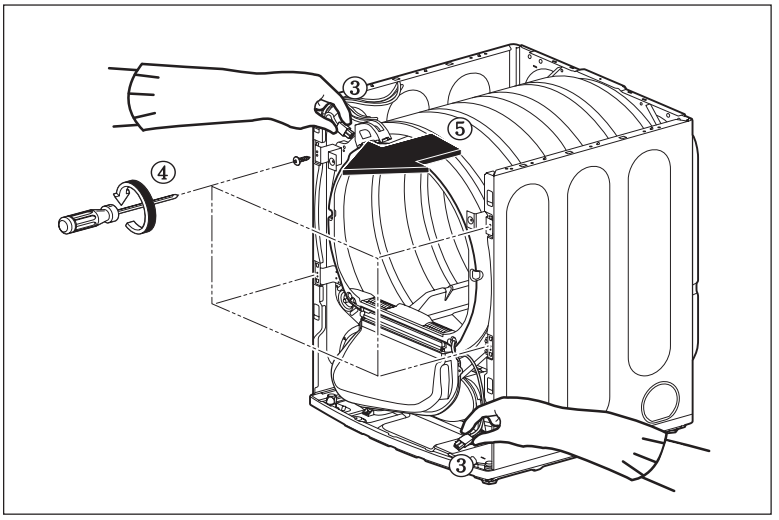


2. Remove the 2 screws than slide the cabinet cover toward the font of dryer.

3. Disconnect wiring to the door switch and lift the cabinet cover.

4. Disconnect wiring to the door switch and lift the cabinet cover.

TUB DRUM [FRONT]

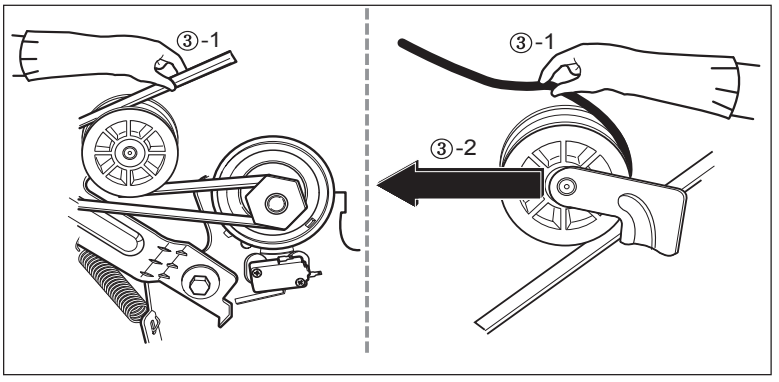


⚠ WARNING!

When you disassemble the Dryer, 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

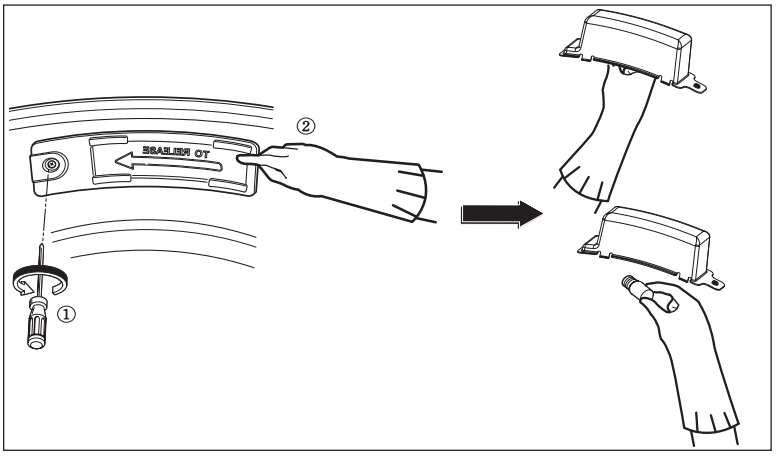
1. Disassemble the top plate.
2. Remove cabinet cover.
3. Disconnect the door lamp and electrode sensor connector.
4. Remove 4 screws.
5. Disassemble the tub drum [Front].

DRUM ASSEMBLY



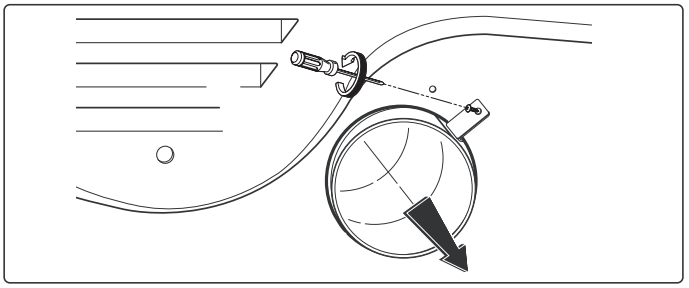
1. Disassemble the top plate.
2. Remove the cabinet cover and tub drum [front].
3. Loosen belt from motor and idler pulleys.
4. Carefully remove the drum.

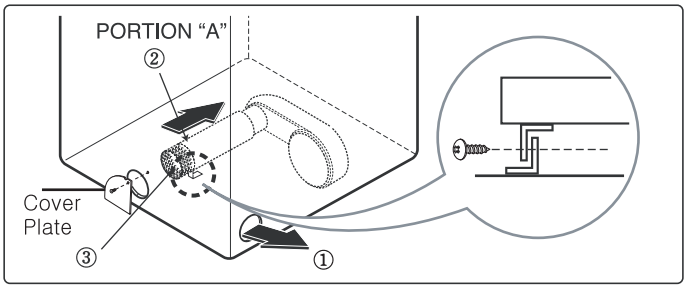
CHANGING THE DRUM LAMP

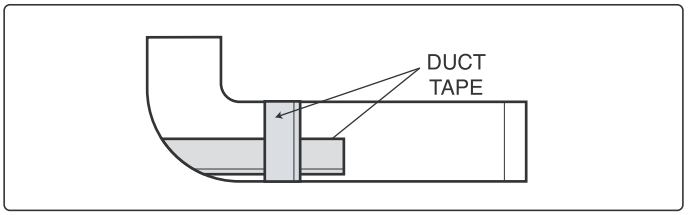


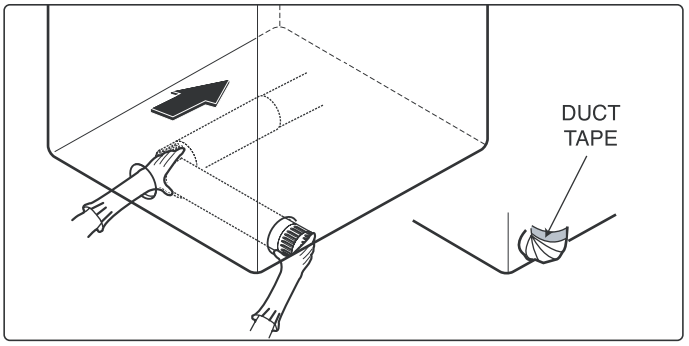
1. Disassemble the door.
2. Hold the lamp shield in place while removing the screw.
3. Slide the shield up and remove.
4. Remove the bulb and replace with a 15 watt, 120 volt, candelabra-base bulb.
5. Replace the lamp shield and screw.

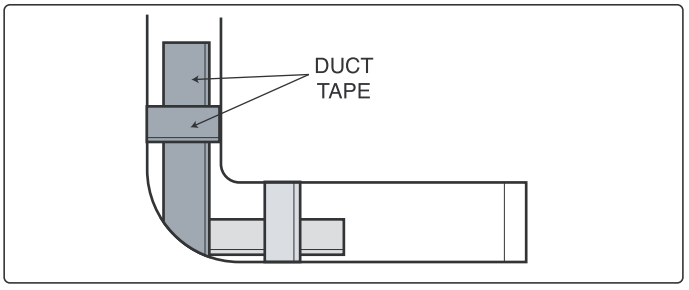
DRYER EXHAUST CHANGE











⚠ 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Remove screw and exhaust duct.

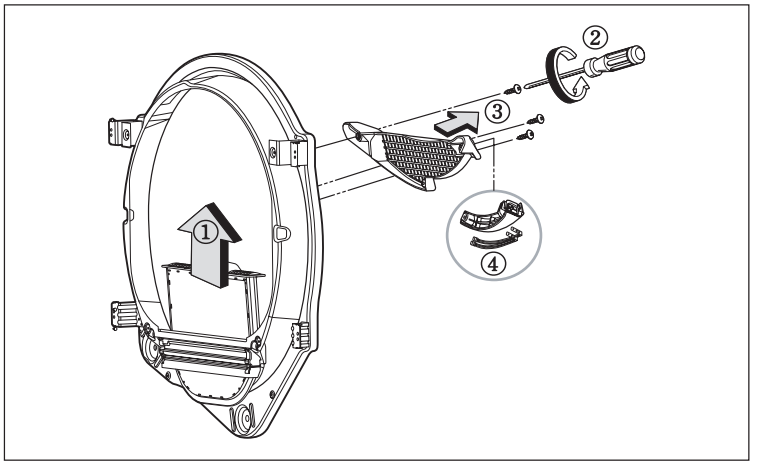
2. Detach and remove the bottom, left or right side knockout as desired. Attach cover plate to the back of the dryer with included screw.

3. Reconnect the new duct [11" (28 cm)] to the blower housing, and attach the duct to the base.

4. Pre-assemble a 4" elbow with a 4" duct. Wrap duct tape around the joint

5. Insert duct assembly, elbow first, through the side opening and connect the elbow to the dryer's internal duct.

FILTER ASSEMBLY

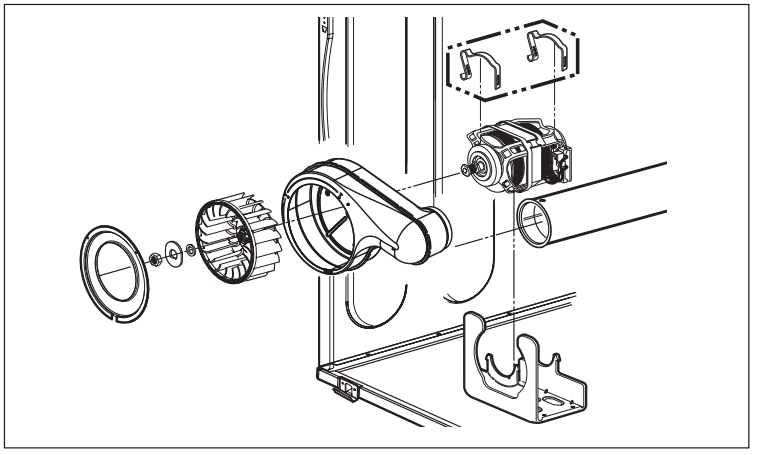


⚠ WARNING!

When you disassemble the Dryer, 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

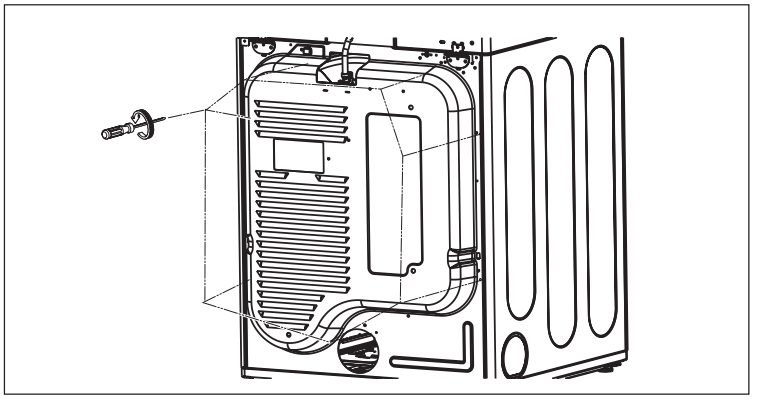
1. Remove the filter.
2. Remove 3 screws.
3. Remove the cover grid.
4. Disconnect the electrode sensor.

BLOWER HOUSING



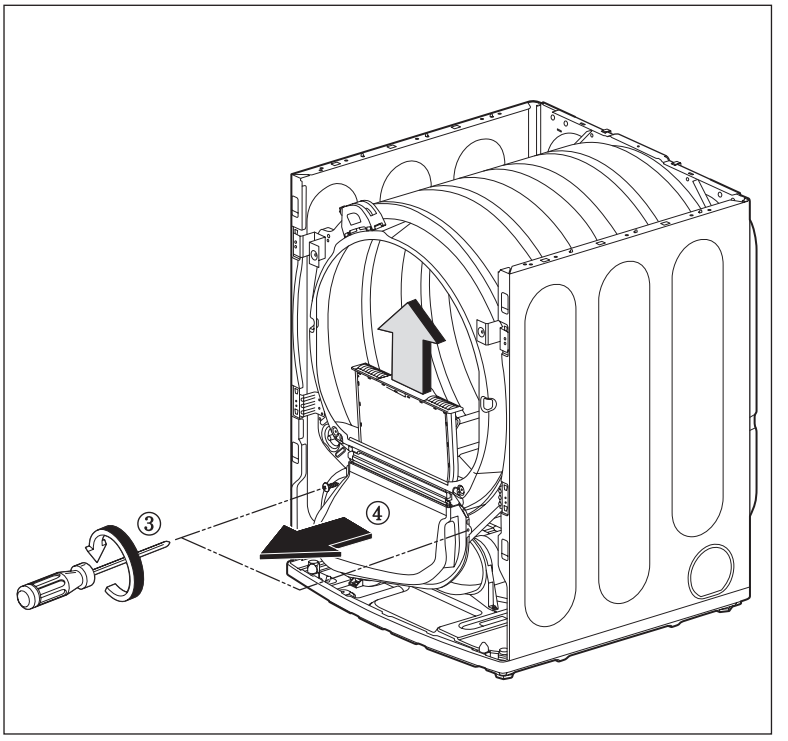
1. Disassemble the top plate.
2. Remove the cabinet cover and tub drum [Front].
3. Remove the drum assembly.
4. Remove 2 screws and cover (Air guide).
5. Remove the bolt and washer.
6. Remove the fan.
7. Disconnect the motor clamp and motor.

BACK COVER



1. Disassemble the top plate.
2. Remove the cabinet cover and tub drum [Front].
3. Remove the drum assembly.
4. Remove 7 screws.
5. Pull the tub drum [Rear] towards the front.

AIR DUCT

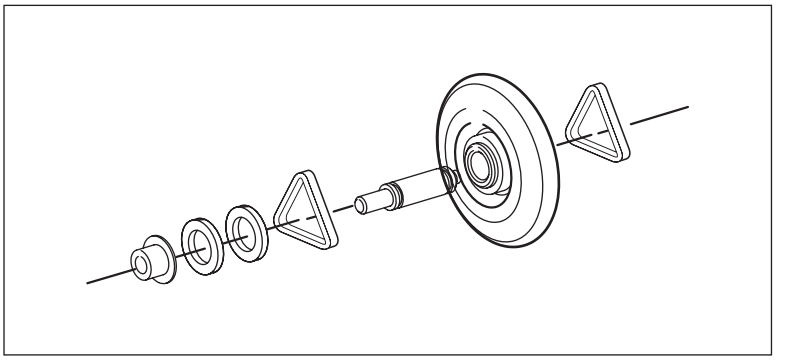


⚠ WARNING!

When you disassemble the Dryer, 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 personal injury, adhere to all industry recommended safety procedures including the use of long sleeved gloves and safety glasses.

1. Disassemble the top plate.
2. Remove the cabinet cover .
3. Remove the filter and 2 screws.
4. Remove the air duct.

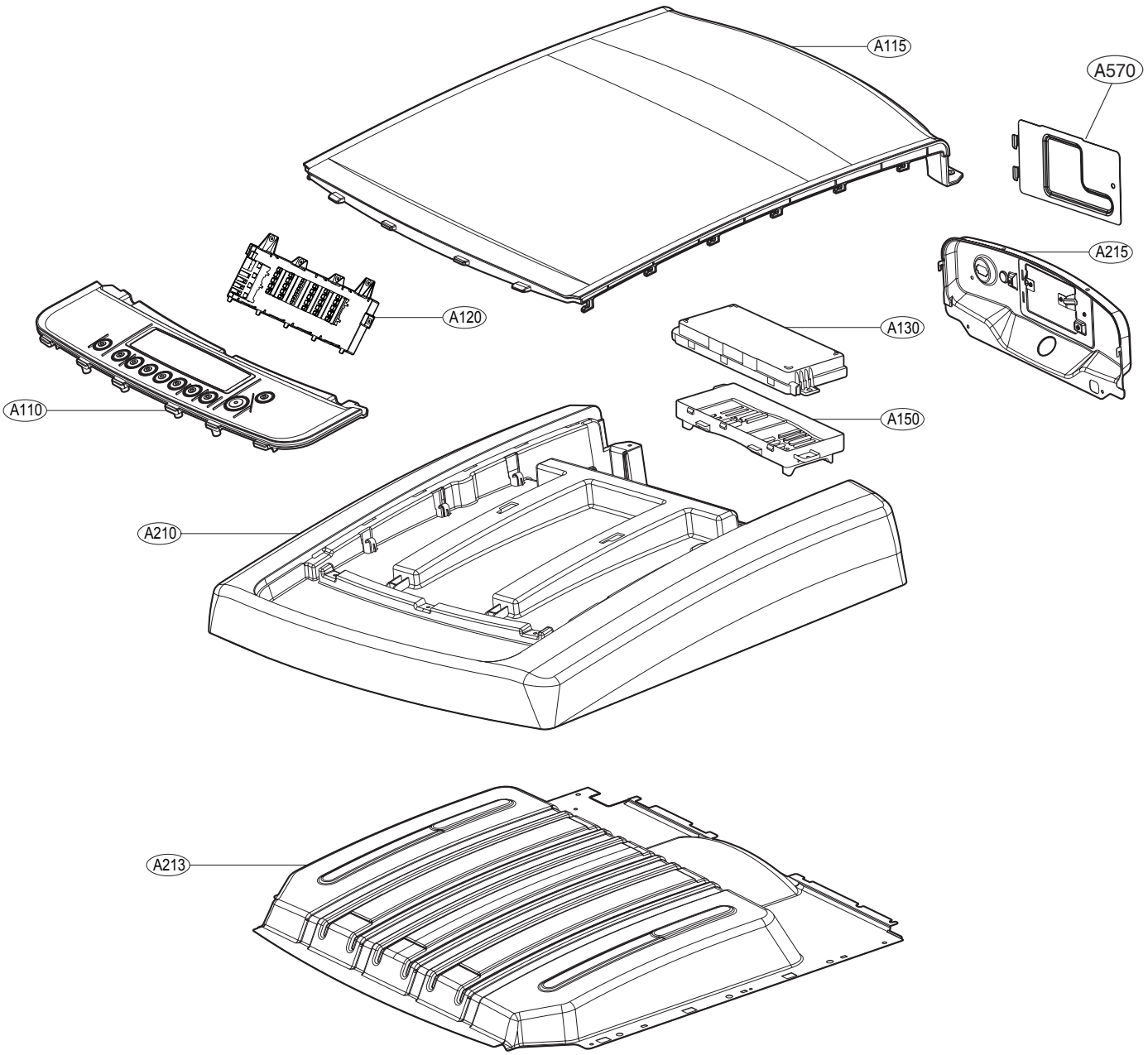
ROLLERS



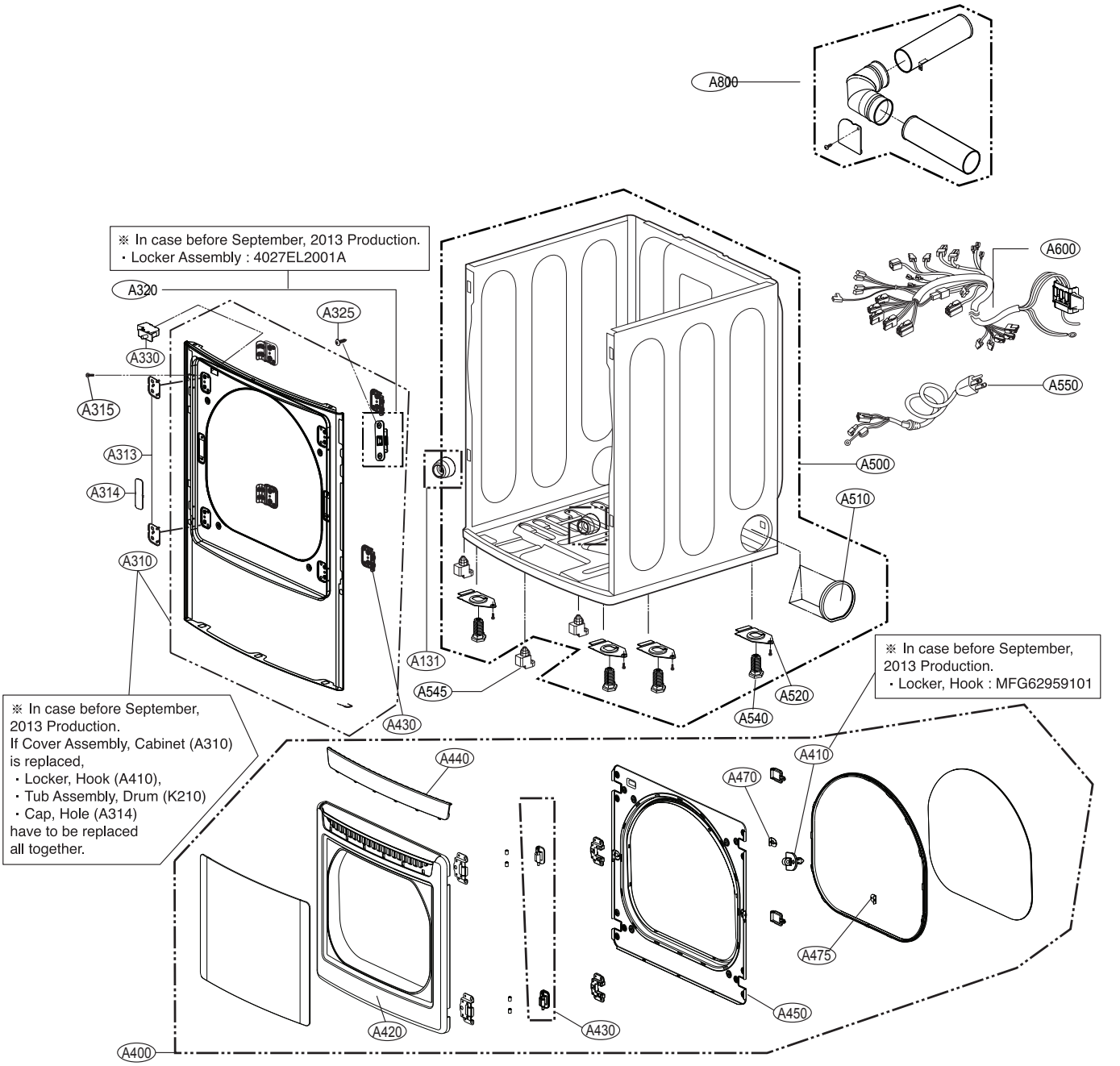
1. Disassemble the top plate.
2. Remove the cabinet cover and tub drum [Front].
3. Remove the drum assembly and tub drum [Rear].
4. Disconnect the air duct from the tub drum [Front].
5. Remove the roller from the tub drum [Front] and tub drum [Rear].

12 EXPLODED VIEW

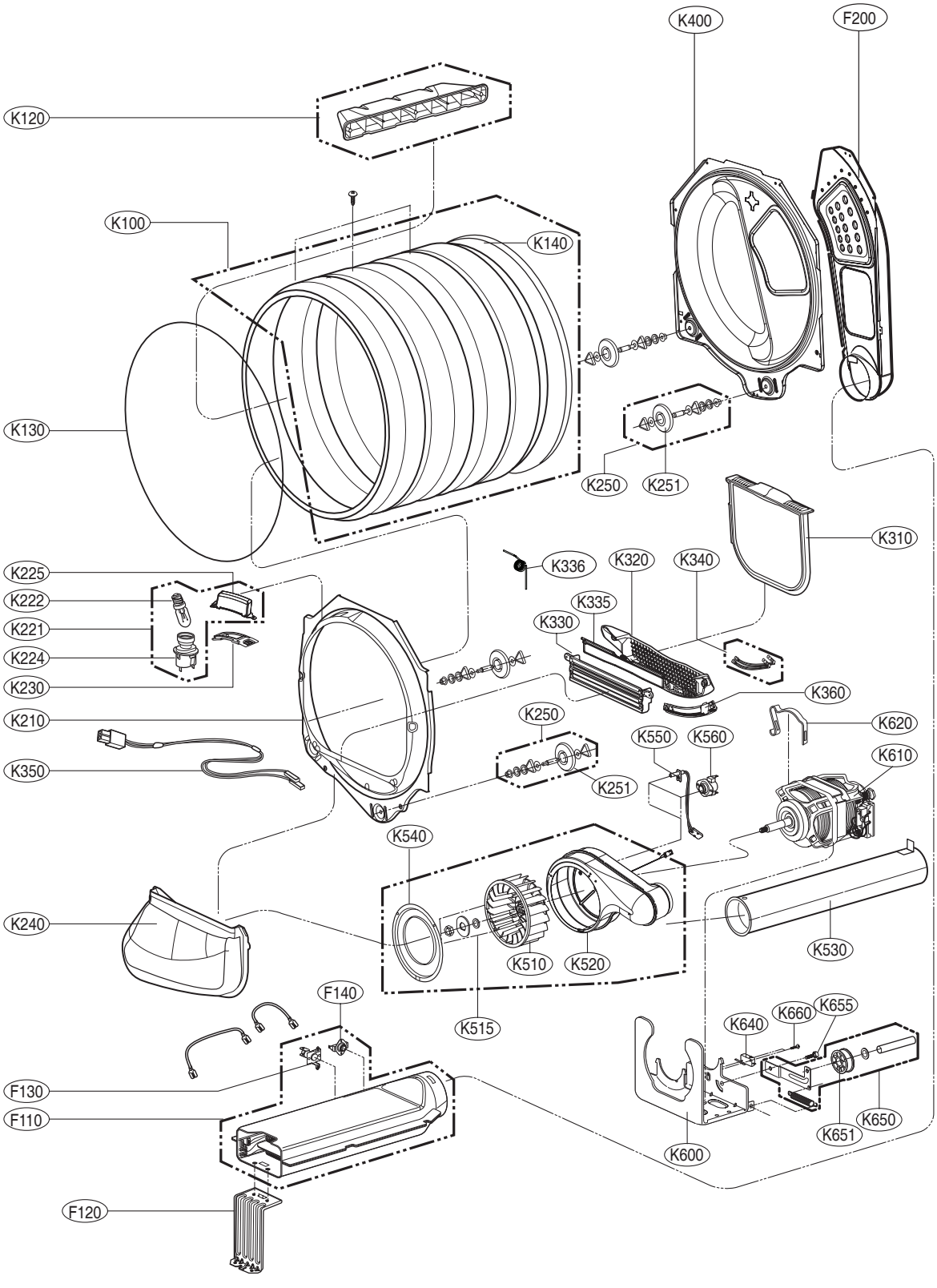
12-1. Control Panel and Plate Assembly



12-2. Cabinet & Door Assembly



12-3-1. Drum & Motor Assembly: Electric Type



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