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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.

MODEL: TD-V1024*E / TD-V1024*G

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.

A 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.

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 -

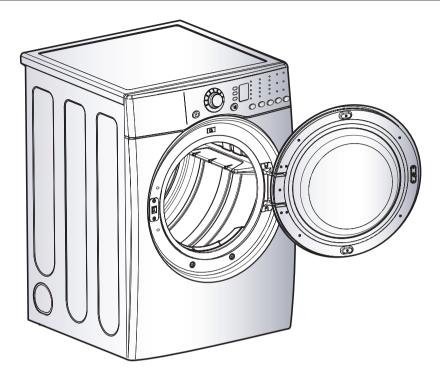
Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- 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.

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SPECIFICATIONS



■ Name: Electric and Gas Dryer

■ Power supply: Please refer to the rating label regarding detailed information.

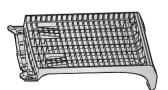
■ Size: 27 X 29.9 X 38.7 (inch)

■ Dryer capacity: IEC 7.3 cu.ft.

■ Weight: 126(lbs)

Specifications are subject to change by manufacturer.

■ ACCESSORIES -



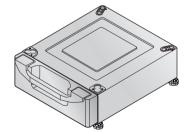
Dryer rack (1 each)
Purchased Separately

See page 6



Stacking kit (1 each)
Purchased Separately

See page 7



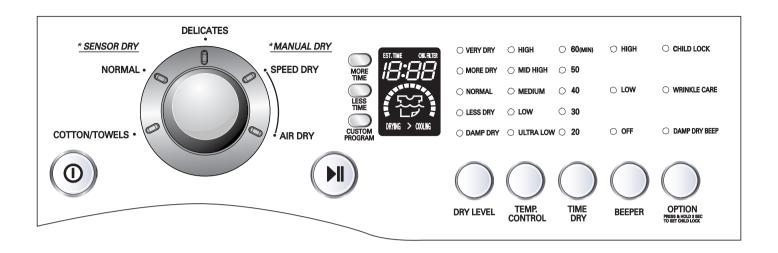
Pedestal (1 each)
Purchased Separately

See page 8

ITEM			TD-V1024*E/G	REMARK
	Color		Blue White	
Material & Finish	Т	op Plate	Porcelain	
	D	oor Trim	Silver Spray	
POWER	SUP	PLY	120V/240V 60Hz (26A)	
EL EOTDIOIS	-\/	MOTOR	250W (4.5A)	AC 120V
ELECTRICIT CONSUMPT		HEATER	5400W (22.5A)	AC 240V (ELECTRIC MODEL)
O O TO O IVIII T		LAMP	15 W (125mA)	AC 120V
		GAS VALVE	13 W (110mA) x 2	AC 120V (GAS MODEL)
CONTR	OL T	YPE	Electronic	
DRUM (CAPA	CITY	7.0 cu.ft.	
Weight (lb	s) - N	let/Gross	126/144	
No. of	Progr	ams	9	
No. of [Ory O	ptions	3	
No. of Tempe	eratur	e Controls	5	
No. of [Dry Le	evels	5	
Sound	leve	ls	High/Low/Off	
Concor	N	/loisture	Available	Electrode sensor
Sensor	Tei	mperature	Available	Thermistor
Revers	ible [Door	Available	
D	Drum		Alcosta Steel	
Dryer Rack		ck	Available	
Child Lock		:k	Avaiable	
Interior Light		ght	Avaiable	
Product	(Wxl	HxD)	27" x 38.74" x 29.9"	
Packing	(WxI	HxD)	29.5" x 44.1" x 31.3"	
				:

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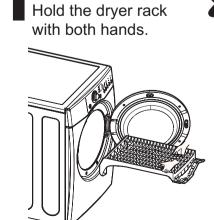
FEATURES AND BENEFITS



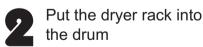
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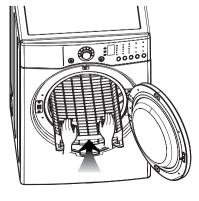
INSTALLATION INSTRUCTIONS

Dryer Rack Installation Instructions



Open the door.





Check and be sure that the front of the rack is properly seated behind the lint filter.



Stacking Kit Installation Instructions

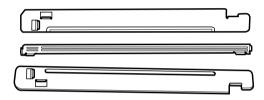
To ensure safe and secure installation, please observe the instructions below.

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.

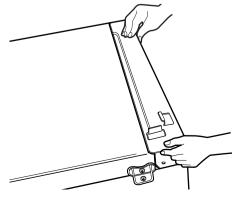


Stacking kit

- Place the washer firmly on a stable, even and solid floor as product installation instructions describe in the owner's manual.
- Peel the protective paper from the tape on the side bracket.

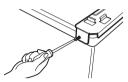


Fit the side bracket firmly to the side of the top plate by attaching the double-faced tape to the top plate as picture shown.

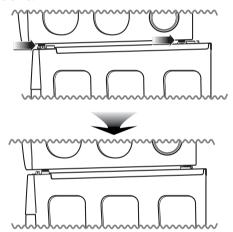


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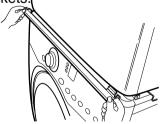
Secure the side bracket to the washer with a screw on the back of the bracket. Repeat Steps 2, 3, & 4 for the other side.



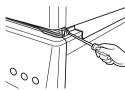
Place the dryer on top of the washer by placing the legs as shown. Be careful not to pinch fingers between the washer and dryer. Slide the dryer back against the stop on the side rail.



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



Screw both sides of the front rail to the side brackets.

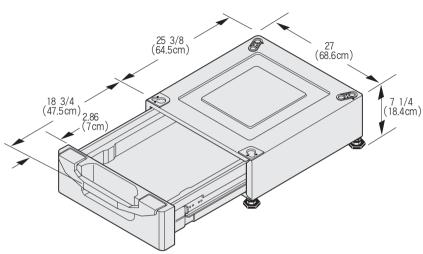


 Do not use a stacking kit with a gas dryer in potentially unstable conditions like a mobile home.

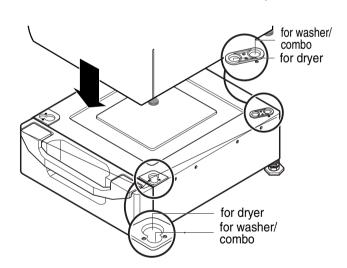
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Pedestal Installation Instructions

* For washer, dryer, and combo LG 27"

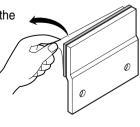


- Remove pedestal, installation hardware, and instructions from the shipping carton.
- Position the dryer on top of the pedestal.

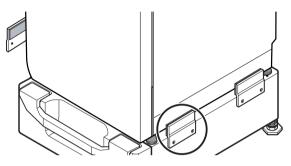


Remove the paper from the bracket.

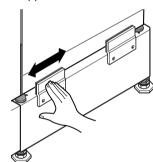
NOTE: That the Pedestal hardware packet may include 2 sets of side brackets. Be sure to use the brackets marked for the dryer.



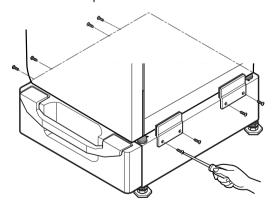
After removing the protective covering from the adhesive surface, align the screw holes in the brackets with the matching holes in the pedestal base and press and press the brackets against the base and the dryer.



5 Be sure to press the adhesive parts of the brackets firmly to the appliance.



Install the eight (8) screws(supplied) to attach the brackets to the pedestal.



Move the dryer to the desired place.

NOTE: The appliance and pedestal assembly must be placed on a solid and level floor for proper operation. Adjust the legs of the appliance and pedestal by turning with a wrench. Then, adjust the lock unt toward the pedestal while holding the pedestal leg using a wrench.

Electric Dryer Only

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



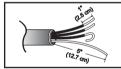
4-wire receptacle (NEMA type14-30R)

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



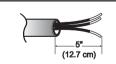
3-wire receptacle (NEMA type10-30R)

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.



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

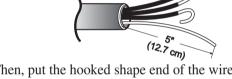
If this type is available at your home, you will be connecting to a fused disconnect or circuit breaker box

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

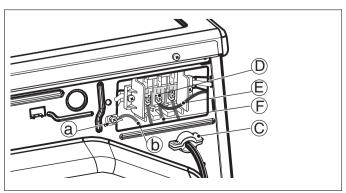
First, peel 5 inch (12.7cm) of covering material from end. Make a 5 inch of ground wire bared. After cutting 1½ inch (3.8cm) from 3 other wires. peel insulation back 1inch (2.5cm). Make ends of 3 wires a hook shape.



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.

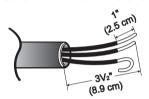


3-wire connection: Direct wire

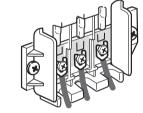
Important: Grounding through the neutral conductor is prohibited for (1) new branch-circuit installations, (2) mobile homes, and (3) recreational vehicles, and (4) areas where local codes prohibit grounding through the neutral conductor.

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

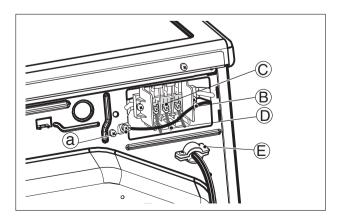
First, peel 3 ½ inch (8.9cm) of covering material from end and bare 1 inch from the ends.



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.

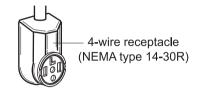


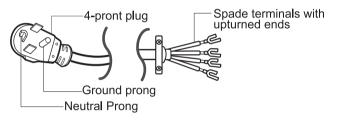
- 1. Connect neutral wire(white) of power cord to center terminal block screw.
- 2. Connect red and black wire to the left and right terminal block screws.
- 3. Make sure that the strain relief screw is tightened and be sure that all terminal block nuts are on tight and power cord is in right position.

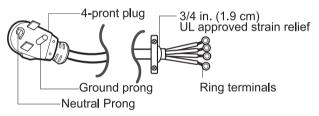


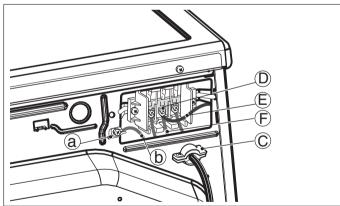
Option 1: 4-wire connection with a Power supply cord.

• 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.





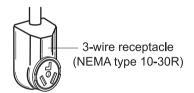


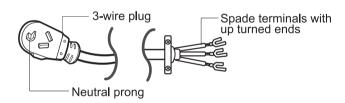


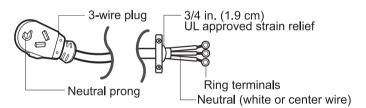
- 1. Connect the neutral wire (white) of the power cord to the center terminal block screw.
- 2. Connect the red and black wires to the left and right terminal block screws.
- 3. Connect the ground wire (green) of the power cord to the external ground screw. Remove the neutral ground wire of appliance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

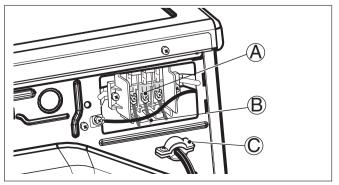
If your local codes or ordinances permit the connection of a frame-grounding conductor to the neutral wire, use these instructions. If your local codes or ordinances do not allow the connection of a frame-grounding conductor to the neutral wire, use the instructions under **Section 3: Optional 3-wire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





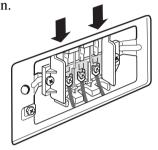


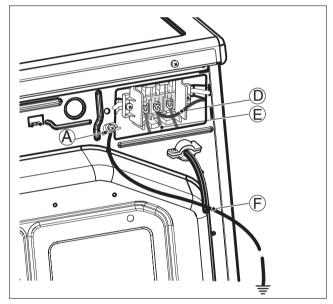
- 1. Connect the neutral (white or center) wire (B) to the center, silver colored, screw (A) and tighten securely.
- 2. Connect the other two power cord wires (red and black) to the left and right terminal block screws and tighten securely.
- 3. Tighten the strain relief screws (C) securely.



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.



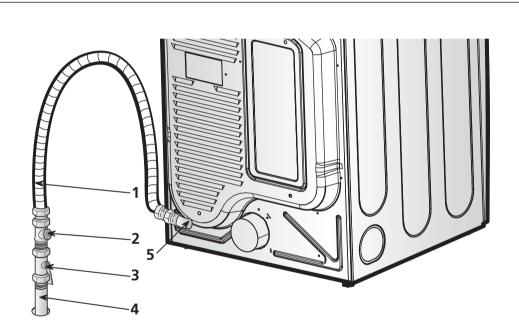


- 1. Remove the appliance ground wire (D) (green) from the external ground connector screw and reconnect it, together with the center, white, neutral wire (E) to the center, silver colored, terminal block screw.
- 2. Connect the other two power cord wires (red and black) to the left and right terminal 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 (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 L.P. (Liquefied Petroleum) gas connection, refer to section on Gas Requirements.



- New Stainless Steel Flexible Connector Use only if allowed by local codes (Use Design A.G.A. Certified Connector)
- 2 1/8" N.P.T. 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" N.P.T. Gas Connection

DRYER CYCLE PROCESS

Default			Conditions of operation and termination						
	Cycle		T. D.		Drying		Cooling		Wrinkle care
		Temp- erature	Dry Level	Display time	Electro- sensor	Temp- Control	Default time	Temp- Control**	Time
	COTTON/ TOWELS	MID HIGH	(Normal)	55min	Saturation	66±4°C	(5min)	47±5°C	
Sensor Dry*	NORMAL	MEDIUM	(Normal)	41min	Saturation	60±4°C	(5min)	47±5°C	3Hr
	DELICATES	LOW	(Normal)	32min	Saturation	52±3°C	(5min)	38±5°C	
Manual	SPEED DRY	(HIGH)	_	25min	Saturation	(70±5°C)	(5min)	(47±5°C)	0.1
Dry **	AIR DRY	_	_	30min	Saturation	No heater	N/A	N/A	3Hr
		•	Mo	tor					Off Time: 6min
		Load							On Time: 10sec
		Loud	Heater		Temperati	ure Contr	ol for eac	ch cycle	

^{*} Sensor dry : "Dry Level" is set by users.

Default settings can be adjusted by users.

^{**} Manual dry: "Temperature control" is set by users.

5

COMPONENT TESTING INFORMATION

A CAUTION

When checking the Component, be sure to turn the power off, and do voltage discharge sufficiently.

Test Procedure	Check result	Remark
Measure resistance of terminal to terminal	If thermal fuse is open must be replaced	Heater case- Safety
① Open at 266 ± 12°F (130 ± 7°C)	① Resistance value ≒ ∞	Electric type
② Auto reset 31°F (35°C) Same shape as Outlet Thermostat.	② Continuity (250°F \downarrow) < 1 Ω	
Measure resistance of terminal to terminal		Heater case - Hi limit
① Open at 257 ± 9°F (125 ± 5°C)	① Resistance value ≒ ∞	Electric type
② Close at 221 ± 9°F (105 ± 5°C)	② Resistance value < 5Ω	
Measure resistance of terminal to terminal		Blow housing - Safety
① Open at 185 ± 9°F (85 ± 5°C)	① Resistance value $=$ ∞	Electric type
② Close at 149 ± 9°F (65 ± 5°C)	② Resistance value < 5Ω	
Same shape as Thermal cut off.		
Measure resistance of terminal to terminal	Resistance value: $80\Omega \sim 100\Omega$	
Measure resistance of the following terminal		The state that Knob is
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)	 Resistance value < 1Ω Resistance value = ∞ Resistance value = ∞ 	pressed is opposite to Open condition.
Measure resistance of the following terminal: "COM - NC"	1. lever open ① Resistance value $< 1\Omega$ 2. Lever push (close)	
	to terminal ① Open at 266 ± 12°F (130 ± 7°C) ② Auto reset 31°F (35°C) Same shape as Outlet Thermostat. Measure resistance of terminal to terminal ① Open at 257 ± 9°F (125 ± 5°C) ② Close at 221 ± 9°F (105 ± 5°C) 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. Measure resistance of terminal to 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) Measure resistance of the following terminal: "COM" - "NO" (1-2)	Measure resistance of terminal to terminal to terminal (① Open at 266 ± 12°F (130 ± 7°C) (② Auto reset 31°F (35°C) Same shape as Outlet Thermostat. Measure resistance of terminal to terminal to terminal (① Open at 257 ± 9°F (125 ± 5°C) (② Close at 221 ± 9°F (105 ± 5°C) (③ Close at 149 ± 9°F (85 ± 5°C) (② Close at 149 ± 9°F (65 ± 5°C) (③ Close at 149 ± 9°F (65 ± 5°C) (③ Close at 149 ± 9°F (65 ± 5°C) (③ Close at 149 ± 9°F (65 ± 5°C) (④ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (⑥ Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (65 ± 5°C) (0° Close at 149 ± 9°F (105 ± 149 ±

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	\bigcirc Resistance value: 10Ω \bigcirc Resistance value: 10Ω \bigcirc Resistance value: 20Ω	Electric type
8. Thermistor	Measure resistance of terminal to terminal Temperature condition: 58°F ~ (10~40°C) 58°F ~ 104F (10~40°C)	Resistance value: 10Ω	Heater case - Hi limit Electric type
9. Motor			• See Page 13
10. Gas valve valve 1	Measure resistance of the following terminal ① Valve 1 terminal ② Valve 2 terminal	① Resistance value: > 1.5 k Ω ② Resistance value: > 1.5~2.5 k Ω	Gas type
11. Igniter	Measure resistance of terminal to terminal	Resistance value: 100~800Ω	Gas type
12. Frame Detect	Measure resistance of terminal to terminal ① Open at 370°F ((Maximum) ② Close at 320°F	① Resistance value $\ \ = \ \ \infty$ ② Resistance value < 1 Ω	Gas type

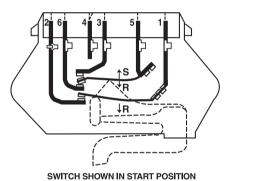
Component	Test Procedure	Check result	Remark
13. Outlet Thermostat (Auto reset)	Measure resistance of terminal to terminal		Gas type
(Auto reset)	① Open at 203 ± 7°F (95 ± 5°C) ② Close at 158 ± 9°F (70 ± 5°C)	 Resistance value ≒ ∞ Continuity < 1Ω 	Gas funnel
Check Top Marking: N95			
14. Outlet Thermostat (Manual reset)	Measure resistance of terminal to terminal	If thermal fuse is open must be replaced	Gas type Gas funnel
65 30	① Open at 212 ± 12°F (100 ± 7°C)	① Resistance value ≒ ∞	
	② Manual reset	② Continuity < 1Ω	
Check Top Marking: N100			

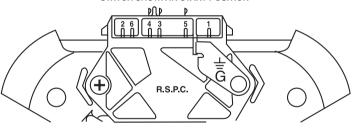
MOTOR DIAGRAM AND SCHEMATIC

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

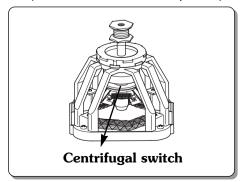
■ Contact On / Off by Centrifugal Switch

Termi	nal No																	D
Mode	Resistance	1	2	3	4	5	6	Remark										
	2 ~ 3Ω				•	•		Motor										
Motor STOP	÷ ∞	•	••••					Heater (Electric Models)										
	≒ ∞			•			•	Gas Valve (Gas Models)										
	3 ~ 5Ω				•	•		Motor										
Motor RUN	< 1Ω	•	•					Heater (Electric Models)										
	< 1Ω			•			•	Gas Valve (Gas Models)										

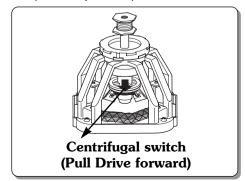




■ STOP MODE (When Motor does not operate)



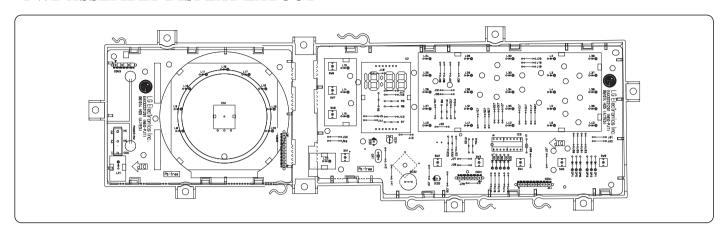
■ RUN MODE (Motor operates)



---- Open --- Close

CONTROL LAY-OUT

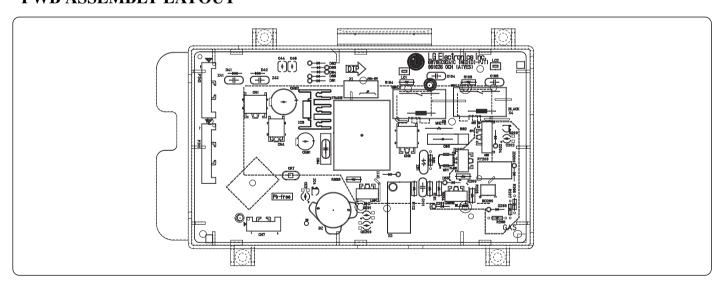
PWB ASSEMBLY DISPLAY LAYOUT



*** MODEL DISPLAY AS DIAGNOSTIC TEST**

DISPLAY Part Number	MAIN Part Number	7-SEG Display	NOTE
EDD00477004	EBR33640901	18:E8	Electric, NEO(D) LED
EBR33477201	EBR33640902	18:98	Gas, NEO(D) LED

PWB ASSEMBLY LAYOUT

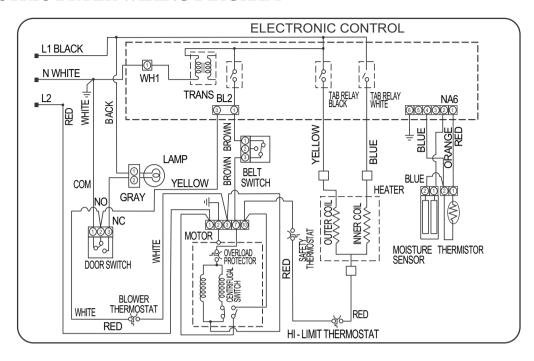


**** MODEL AS DIAGNOSTIC TEST**

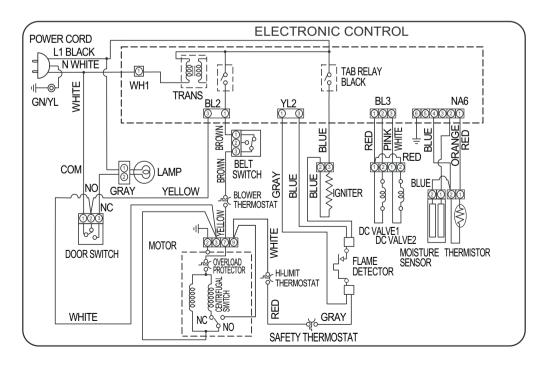
DISPLAY Part Number	MAIN Part Number	7-SEG Display	NOTE
EDD00477001	EBR33640901	18:E8	Electric, GAINT(D) LED
EBR33477201	EBR33640902	18:98	Gas, GAINT(D) LED

WIRING DIAGRAM

ELECTRIC DRYER WIRING DIAGRAM



GAS DRYER WIRING DIAGRAM



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.

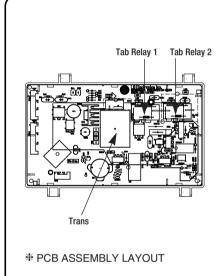
Pressing the START/PAUSE button	CHECKING ACTION	DISPLAY	CHECKING POINT	REMARK
	Electric control	LQC TEST	Won't power up Detective LED or LCD	See test 1 Display: See page
None	& Temperature	tE1	Thermistor open	See test 2
	sensor	tE2	Thermistor close	000 1031 2
			Motor runs	See test 3
Once	Motor	70 ~ 239 Measured Moisture Value.	Displays Moisture Sensor Operation: If moisture sensor is contacted with damp cloth. The display number is below 180, in normal condition.	See test 4
Twice	■ ELECTRIC TYPE Motor + Heater 1 (2700W) ■ GAS TYPE Motor + Valve	Current Temp.	■ ELECTRIC TYPE: Heater runs ■ GAS TYPE: GAS Valve runs (Display the Temperature of Inside drum.)	Gas valve See test 7
3 times	■ ELECTRIC TYPE Motor + Heater 1 +Heater 2 (5400W) ■ GAS TYPE Motor+Valve	Current Temp. (5 ~ 70)		
4 times	Motor, Heater	50~230 Measured "SE"(Error Display)	Motor, Heater Off Semi-conductor	See test 8
5 times	Control Off	(1 7/		Auto Off
During check,	Motor & Heater Off + Lamp On +	"dE" or "Error" (THE DOOR IS	Door switch	See test 6
If the door is open.	Buzzer beeps seven times	OPEN.PLEASE CLOSE THE DOOR COMPLETELY)	Lamp	
During check, If the door is closed.	Motor on & Heater Off + Lamp Off	70 ~ 239	 Press Start button 1 time and then open the door. Proceed again with the step 1 (by pressing start 1 time), step 2 (by pressing start 2 times), step 3 (by pressing start 3 times) and step 4 (by pressing start 4 times) in sequence. Press Start 2 times and then open the door. Proceed again from the step 1 all the way to the step 4. Press Start 3 times and then open the door Proceed with the step 1 and skip the step 2 and press step 3 twice and finish with step 4 by making sure the all the electric devices shut off in the end. 	

■ **Test 1** 120V AC Electrical supply

No power was applied to Controller. (LED,LCD Displ	lay off)	electric shock. No power was applied to Controller. (LED,LCD Display off)				
With Dryer Power On; Connector linked to Controlle	r.					
	_					
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						
 Check if the Controller wire is disconnected. Check if Terminal Block and Power Cord are connected (Check Plug). Does Power Cord N (Natural) line match to Terminal Center N (Natural) line? 	NO	Reconnect the controller.				
YES Beplace controller						
	Check the outlet, is the voltage 110V ~ 125V AC? 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? 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 (Natural) line match to Terminal Center N (Natural) line?	Check the outlet, is the voltage 110V ~ 125V AC? 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 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 (Natural) line match to Terminal Center N (Natural) line?				

Caution When measuring power, be sure to wear insulated gloves, to and 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 Tab Relay with Heater (Elec)

	Та	Та			R
High Mid High Medium	on	on	on	on	Temperature Control below 68±4°C. Turn on Heater1 and Heater2.
Low Extra Low	on	off	on	off	Temperature Control below 52±4°C. Only Turn on Heater1.

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

	T a	В	R
High Mid High Medium	0	0	Temperature Control below 70±4°C. Turn on Burner
Low Extra Low	0	0	Temperature Control below 47±4°C. Turn on Burner

2. Status Mode Of The Connection

< Table1 > : Connection of Tab Relay with the Tab Relay of the PCB ASSEMBLY (Elec)

	Oalan	Connection	Domaile
	Color	Harness PC	CB Remark
Connector Housing	Black	Yellow Wire 1 Black Wire Connector Housing Tap re	Check the Matching color Between Harness wire and Tab Relay. (Black Housing – Black Tab Relay)
	White	Blue Wire Black Wire Connector Housing Tap re	Check the Matching color Between Harness wire and Tab Relay. (White Housing – White Tab Relay)

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

	Color	Harness	РСВ	Remark
Connector Housing	Black	Blue Wire Black Wire Connector Housing	Tap relay 1	Check the Matching color Between Harness wire and Tab Relay. (Black Housing – Black Tab Relay)

3. Status Mode Of wrong Connection

< Table1 > : Wrong Connection of the Tab Relay and Connector Housing (Elec)

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	Heater2	Heater1	Power On
5.Black and White Housing	Housing and Wire ①, ② CROSS	Off	Off	Power Off

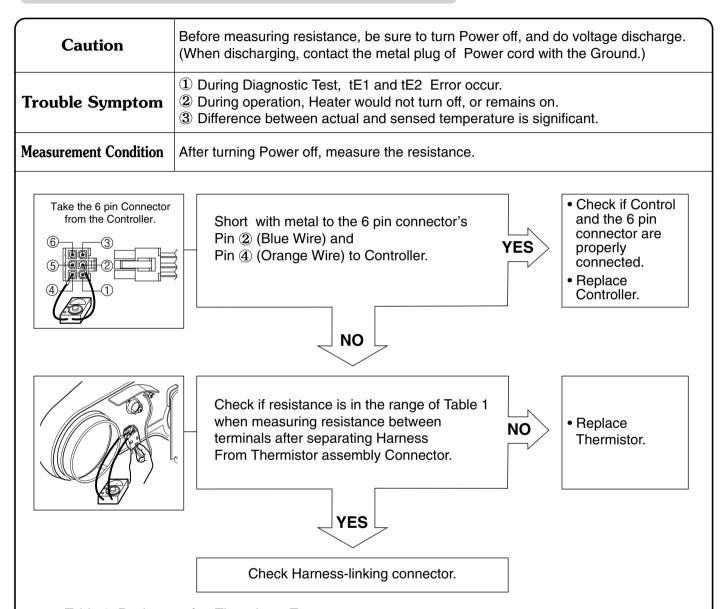
< Table2 > : Wrong Connection of the Tab Relay and Connector Housing (Gas)

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

A CAUTION

- In case of power failure(<Table 1>-1,2,5,<Table 2>-1), Please check the Connection of "2.Status Table of Connection". In case of power failure(<Table 1>-4), please check the Connection of "2. Status Table of Connection". Because improper Connection of the equipment-dryer can be damaged of changing heater.

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



■ Table 1. Resistance for Thermistor Temperature.

Air TEMP.[°F (°C)]	RES. $[k\Omega]$	Air TEMP.[°F (°C)]	RES. $[k\Omega]$	Air TEMP.[°F (°C)]	RES. $[k\Omega]$
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
70°F (21°C)	11.7	110°F (43°C)	5.2	150°F (66°C)	2.5
80°F (27°C)	9.3	120°F (49°C)	4.3	160°F (71°C)	2.2

■ Test 3 Motor test

Caution	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	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.					
WH 1 BL2 1 1 2	Is resistance below 3Ω between Connector WH① (White wire) and BL2-② (Brown wire)? ** Measure while door is closed. NO Is resistance below 3Ω between Connector WH① (White wire) and BL2-① (Yellow wire)? ** Measure while door is closed. YES Is resistance below 3Ω between Connector BL2-① (Yellow wire) and BL2-② (Brown wire)? NO NO NO	Replace Control. (Relay check) Check Controller connector. Check if Door flame presses door switch knob. Check Door Switch. Check Harness connection. Replace Control. (Relay check) Check Controller connector.				
	Is resistance below 1Ω between terminals of Outlet Thermostat attached to blower housing?	Replace Outlet Thermostat. (Refer to 'Component')				
	Does Idle Switch attached to Motor Bracket operate Level by drum belt? (Not operating Lever is normal.)	Check Idler Assembly. Drum Belt cuts off Drum Belt takes off from Motor Pulley.				
Idler Switch Lever Idler Switch	Is resistance below 1Ω between Idler Switch terminals? YES • Check Motor. (Refer to 'Motor Diagram & Check') • Check if Control Connector is contacted.	Replace Idler Switch.				

■ Test 4 Moisture sensor

Caution Before measuring resistance, be sure to turn Power (When discharging, contact the metal plug of Power			0		
Trouble Symptom	Trouble Symptom Degree of dryness does not match with Dry Level.				
Measurement Condition	Turn the Dryer's Power Off, then measure resistance	Э.			
Take 6pin Connector from the Controller. 6 3 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Short with metal to the 6 pin connector's Pin ② (Blue Wire) and Pin ④ (Orange Wire) to Controller. When measuring resistance in Electric load, is resistance below 1Ω?	NO	Check Electro Load and Harness Connector. Check Harness-linking connector.		
Damping clot	When contacting cloth to Electro load: 1. Is the measurement within the range of Table 2 during Diagnostic Test? 2. Is the measurement within the range of Table 2 when measuring the voltage in the 6 pin connector's Pin ③ (BLUE wire) and Pin ⑤ (ORANGE wire)? YES Normal Condition	NO	Replace Control and Check.		
	Normal Condition				

■ Table 2. IMC Ratio and Display Value / Voltage (IMC: Initial Moisture Content)

IMC	Display Value	Voltage (DC) (between 6 Pin terminal 3,5)	Remark
70% ~ 40%	50 ~ 130	2.5V	Weight after removing from Washing Machine
40% ~ 20%	130 ~ 20	2.0V ~ 4.0V	Damp Dry
10% ~ Dried clothes	205 ~ 240	Over 4.0V	Completely-dried clothes

■ Test 5 Door switch test

Caution	Before measuring resistance, be sure to turn Power (When discharging, contact the metal plug of Powe		0			
Trouble Symptom	Touble Symptom Door Opening is not sensed.(During operation, when opening Door, Drum motor and Heater run continuously) Door Close is not sensed. (Drum motor will not operate. Display will flash at 0.5 second intervals.)					
Measurement Condition	After turning Dryer Power Off, measure resistance.					
BK2 WH1	Measure while Door is closed. Check it resistance is below 2500 Ω between WH1-①(White wire) and BK2-② Connector WH1,BL2 after taking WH1,BL2 out from Controller.	YES	Door switch Check (Refer to Component testing.)			
	Measure while Door is open. Check it resistance is 300~60 Ω between WH1-①(White wire) and BK2-② (Black wire). Connector WH1,BL2 after taking WH1,BL2 out from Controller.	NO	Check Lamp. (When opening Lamp, replace then measure again.) Door switch Check(Refer to Component testing.)			
WH 1 BL2	Measure while Door is open. Check it resistance is below 1 Ω between BL2- ①(Yellow wire) and WH1-①(White wire) after taking Connector WH1,BL2 out from Controller.	YES	Door switch Check (Refer to Component testing.)			
	NO					
	Measure while Door is closed. Check it resistance is below 1 Ω between BL2- $\mathbb{Q}(Yellow wire)$ and WH1- $\mathbb{Q}(White wire)$ after taking Connector WH1,BL2 out from Controller.	NO	Door switch Check (Refer to Component testing.)			
	YES					
	Check Controller. Check Harness-linking connector.					

■ **Test 6** Heater switch test - Electric Type

Caution	Before measuring resistance, be sure to turn Power of (When discharging, contact the metal plug of Power		_		
Trouble Symptom While operating, Heating will not work. Drying time takes longer.					
Measurement Condition	After turning Power off, measure the resistance.				
	 1. Is resistance between Heater terminal 1 and ② below 18 ~ 22Ω? 2. Is resistance between Heater terminal 1 and ③ below 18 ~ 22Ω? 3. Is resistance between Heater terminal 2 and ③ below 9 ~ 11Ω? 	NO	• Replace Heater.		
	YES				
TH3 TH2	Check if the value of measured resistance is below 1Ω between terminal TH2 (Safety Thermostat).	NO	Replace TH2 (Safety Thermostat).		
	Check if the value of measured resistance is below 1Ω between terminal TH3 (HI-Limit Thermostat).	NO	Replace TH3 (HI-Limit Thermostat).		
	YES	-			
	Check Motor. Check if the value of measured resistance is below 1Ω between terminal 1 and 1 at RUN condition.	NO	Check Motor and replace it.		
YES					
	Check Controller. Check Harness-linking Connector.				

■ **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)			
Valve 1	When measuring Valve 1 voltage, More than DC 90V?	NO	Check thermostat Hi limit Safety	
	YES			
Igniter	Igniter operates? (after 1 min, Igniter becomes reddish) YES	NO	Check Igniter & Frame detect	
Valve 2		7 ,	• Check Gas	
	When measuring Valve 2 voltage, Value is more than DC 90V? (10 sec after Igniter off)	YES	connection or Gas supply	
	NO			
	When measuring terminal resistance on Valve 1 and Valve 2, Valves are more than 1.5 \sim 2.5 k Ω ? (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			

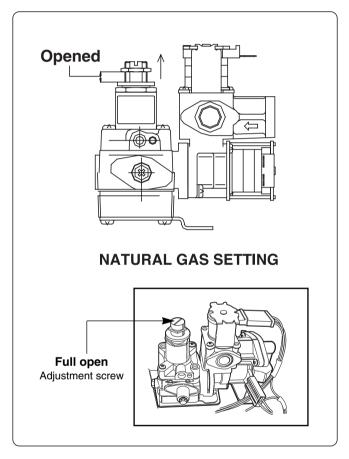
CHANGE GAS SETTING (NATURAL GAS, PROPANE GAS)

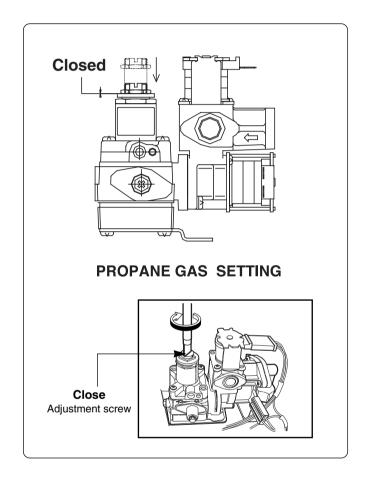
A Warning

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

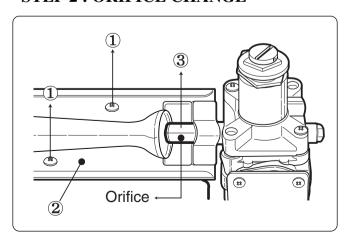
Initially, Natural Gas mode is set. Propane Gas Orifice is on sale as a Service Part to authorized servicers only.

STEP 1: VALVE SETTING





STEP 2: ORIFICE CHANGE

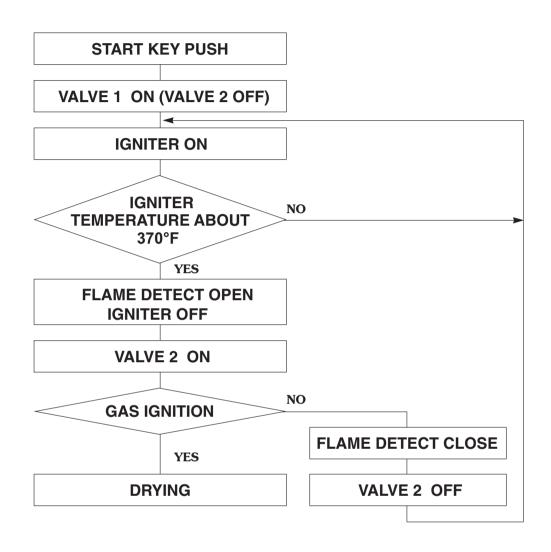


- 1 Remove 2 screws.
- 2) Disassemble the pipe assembly.
- 3 Replace Natural Gas orifice with Propane Gas orifice.

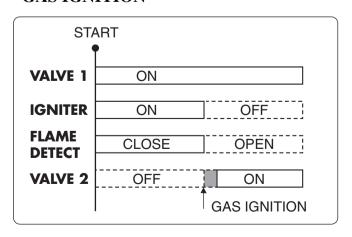
Gas type	Orifice P/No	Marking	Shape
Natural Gas	4948EL4001B	NCU	
Propane Gas	4948EL4002B	PCU	

Kit contents: Orifice (Dia. = 1.613mm, for Propane Gas)
 Replace Label
 Instruction Sheet

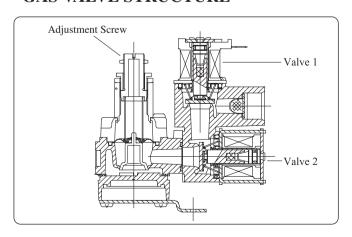
■ GAS VALVE FLOW



GAS IGNITION



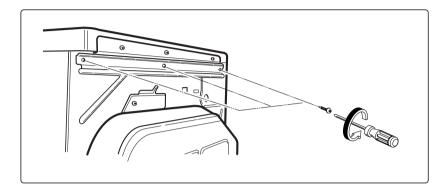
GAS VALVE STRUCTURE



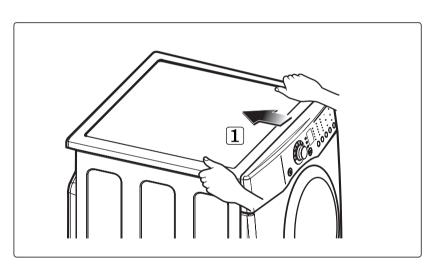
DISASSEMBLY INSTRUCTIONS

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

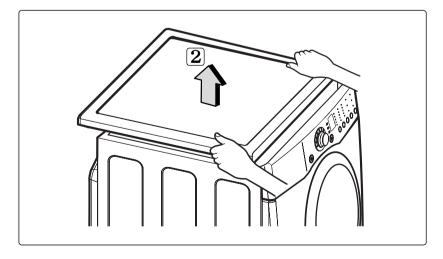




1. Remove 3 screws on the upper plate.

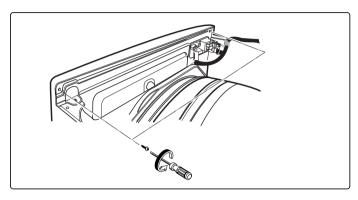


2. Push the top plate back ward.

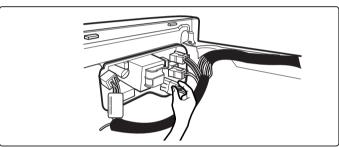


3. Lift the top plate

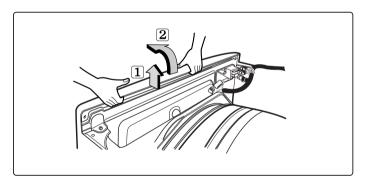
CONTROL PANEL ASSEMBLY



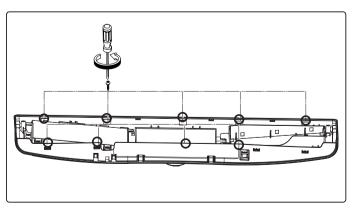
1. Remove 2 screws on the control panel frame.



2. Disconnect the connectors.

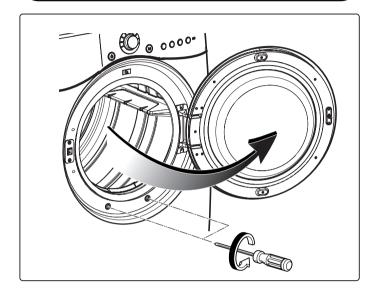


3. Pull the control panel assembly upward and then forward.

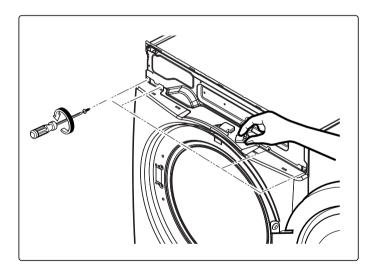


- **4.** Remove 9 screws on the PWB(PCB) assembly, display.
- **5.** Remove 4 screws on the PWB(PCB) assembly, main.
- 6. Disassemble the control panel assembly.

COVER CABINET

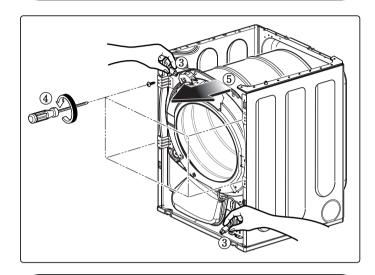


- 1. Disassemble the top plate.
- **2.** Disassemble the control panel assembly.
- **3.** Disassemble the door assembly.
- **4.** Remove 2 screws.



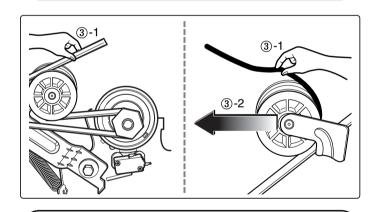
- **5.** Remove 4 screws from the top of cabinet cover.
- **6.** Disconnect the harness of door switch.

TUB DRUM [FRONT]



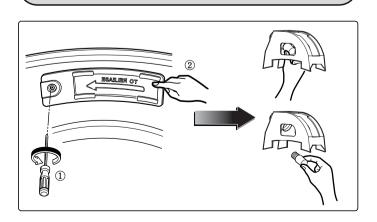
- 1. Disassemble the top plate.
- 2. Remove Cover Cabinet.
- **3.** Disconnect the door lamp and electrode sensor connector.
- 4. Remove 4 screws.
- **5.** Disassemble the Tub Drum [Front].

DRUM ASSEMBLY



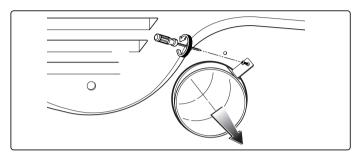
- 1. Disassemble the top plate.
- **2.** Remove the Cabinet Cover and Tub drum [front].
- **3.** Loosen belt from motor and idler pulleys.
- **4.** Carefully remove the drum.

CHANGING THE DRUM LAMP

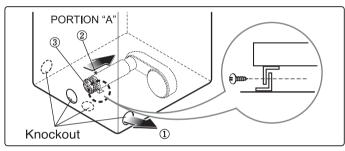


- 1. Disassemble the door.
- **2.** Hold the lamp shield in place while removing the screw.
- **3.** Slide the shield up and remove.
- **4.** Remove the bulb and replace with a 15 watt, 120 volt candelabra-base bulb.
- 5. Replace the lamp shield and screw.

DRYER EXHAUST CHANGE

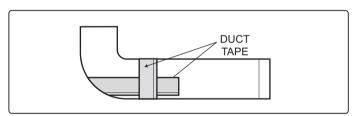


1. Remove a screw and the exhaust duct.

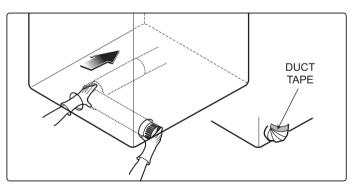


2-1. Detach and remove a knockout at the botton, left or right side as desired. (Right Side Vent not available on Gas dryer)

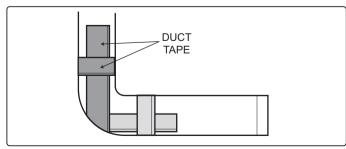
1, 2, 3 the order of work.



2-2. Reconnect the another duct [11 in (28cm)] to the blower housing, and attach the duct to the base. (Duct is a SVC part)

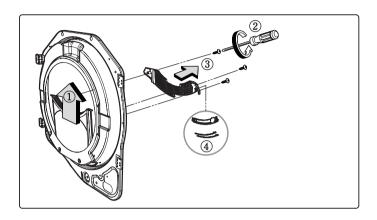


3-1. Pre-assemble 4" elbow with 4" duct. Wrap duct tape around joint.



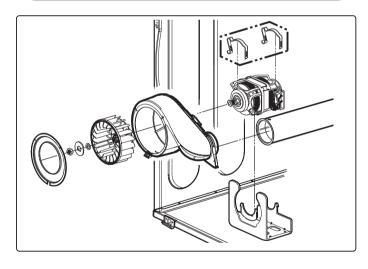
3-2. Insert the elbow duct assembly through the side opening and connect the elbow to the internal duct.

FILTER ASSEMBLY



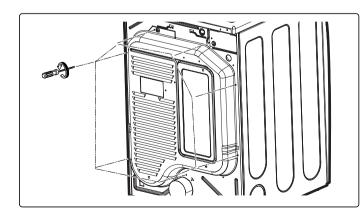
- **1.** Remove the filter.
- 2. Remove 3 screws.
- **3.** Remove the Cover Grid.
- **4.** Disconnect the electrode sensor.

BLOWER HOUSING



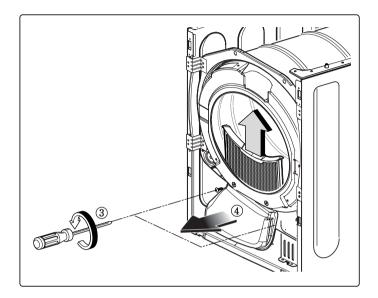
- **1.** Disassemble the top plate.
- 2. Remove the Cabinet Cover and Tub Drum [Front].
- 3. Remove the Drum assembly.
- **4.** Remove 2 screws and cover (Air guide).
- **5.** Remove the bolt and washer.
- **6.** Remove the fan.
- **7.** Disconnect the motor clamp and motor.

BACK COVER



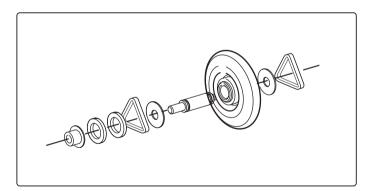
- 1. Disassemble the top plate.
- 2. Remove the Cabinet Cover and Tub Drum [Front].
- 3. Remove the Drum assembly.
- 4. Remove 7 screws.
- 5. Remove the Back Cover.

AIR DUCT



- **1.** Disassemble the top plate.
- 2. Remove the Cover Cabinet.
- **3.** Remove the filter and 2 screws.
- **4.** Remove the air duct.

ROLLERS

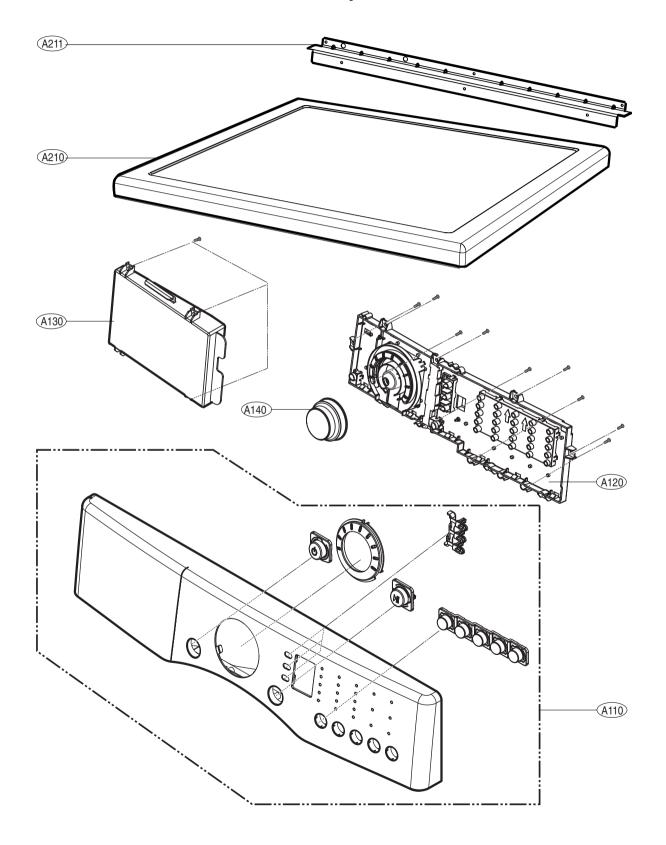


- 1. Disassemble the top plate.
- 2. Remove the Cover Cabinet and Tub Drum [Front].
- **3.** Remove the Drum assembly and Tub Drum [Rear].
- **4.** Disconnect the Air duct from the Tub Drum [Front].
- **5.** Remove the roller from the Tub Drum [Front] and Tub Drum [Rear].

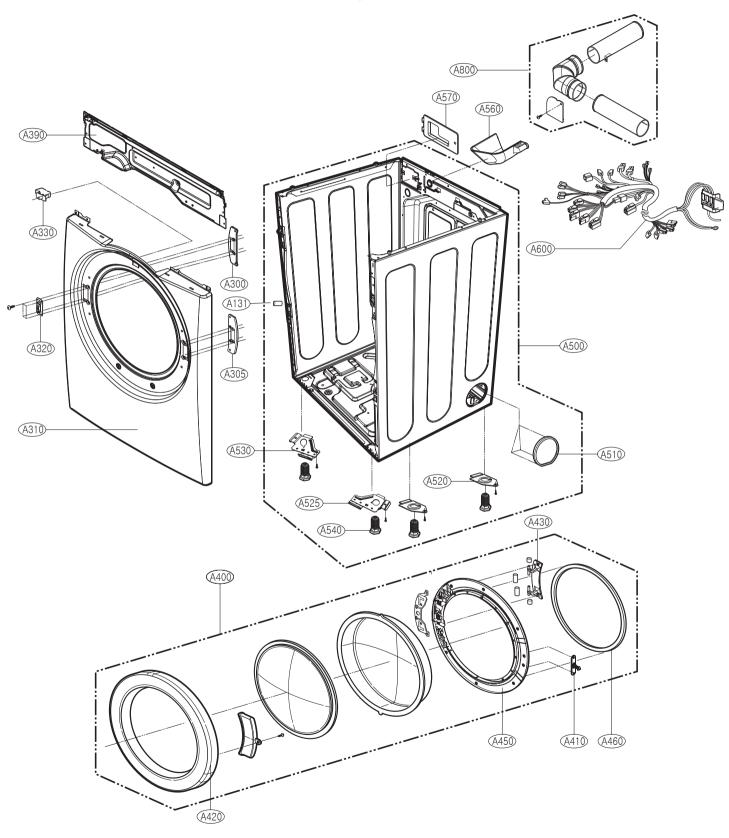
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EXPLODED VIEW

12-1. Control Panel & Plate Assembly



12-2. Cabinet & Door Assembly



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

