

IMPORTANT SAFETY INFORMATION

WARNING

The following information is intended for use by persons possessing adequate electrical, electronics, and mechanical backgrounds and experience. Lack of proper background and experience during any repair of a major appliance could result in death, personal injury, and/or 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.

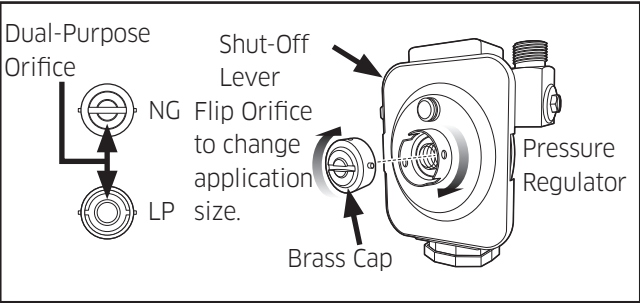
- Disconnect the electrical power to the appliance before servicing.
- Shut off the gas supply to the appliance before servicing.
- Reconnecting all grounding devices before reconnecting the electrical power and opening the gas supply to the appliance.
- All electrical components in this appliance are grounded. All grounding wires, screws, straps, nuts, and/or washers must be replaced to their original position and properly fastened.
- LP conversion must be performed by a qualified installer or gas supplier in accordance with the manufacturer’s instructions and all codes and requirements of the authority having jurisdiction. Failure to follow ALL instructions could result in serious injury or property damage. The qualified agency performing this work assumes responsibility for the conversion.
- Know the location of the gas shut-off valve and how to shut it off if necessary.
- Do not operate the cooktop surface burners or oven burners of this range when using LP gas before converting the pressure regulator and burner orifices for LP gas use. Failure to do so could cause high flames and toxic fumes which can result in serious injury.
- Do not mix up or substitute LP gas burner orifices during the conversion process. Improper orifice placement will affect burner and cooking performance and could result in personal injury and/or product damage.

LP GAS (PROPANE) CONVERSION

1. Converting the pressure regulator

The regulator is located in the lower, left-hand corner of the back panel.

- A. Locate the pressure regulator on the lower, left hand of the back panel. The pressure regulator can be seen and accessed through the square hole of the back panel.
- B. Using flat driver, turn the dual purpose orifice counterclockwise to remove from the pressure regulator.
- C. Completely remove the orifice and reinstall it on the opposite side of the spud.



- D. Reinstall the orifice in the pressure regulator so the large, open LP gas end is exposed. Tighten the spud using flat screw driver. Do not overtighten.
- E. Make sure the gas shut-off lever on the side of the pressure regulator is in the open position.

2. Converting the surface burners

The range comes with low-altitude LP conversion kits. The kit contains 16 burner orifices. Fourteen of these 16 orifices are sized and color-coded for surface burner use. The remaining 2 orifices are for the bake and broil oven burners. Use the following charts to properly size and replace the orifices:

BURNER ORIFICE SIZES AND OUTPUT RATINGS (LP Gas [Propane] 10 in WCP)		
Burner Location	BTU Rate	Orifice size [mm]
LF	16500	In : 0.46 / Out : 0.78 (2 pcs)
LR	14500	In : 0.46 / Out : 0.74 (2 pcs)
CF	14500	1.12
CR	14500	1.12
RR	14500	In : 0.46 / Out : 0.74 (2 pcs)
RF	16500	In : 0.46 / Out : 0.78 (2 pcs)
BAKE	23000	1.4
BROIL	14500	1.12

Orifice markings:

115 – Denotes 1.15 mm orifice size opening.

BURNER ORIFICE SIZES AND OUTPUT RATINGS (Natural Gas 5 in WCP)		
Burner Location	BTU Rate	Orifice size [mm]
LF	22000	In : 0.85 / Out : 1.40 (2 pcs)
LR	16000	In : 0.70 / Out : 1.17 (2 pcs)
CF	16000	1.78
CR	16000	1.78
RR	16000	In : 0.70 / Out : 1.17 (2 pcs)
RF	22000	In : 0.85 / Out : 1.40 (2 pcs)
BAKE	25000	2.34
BROIL	18000	1.90

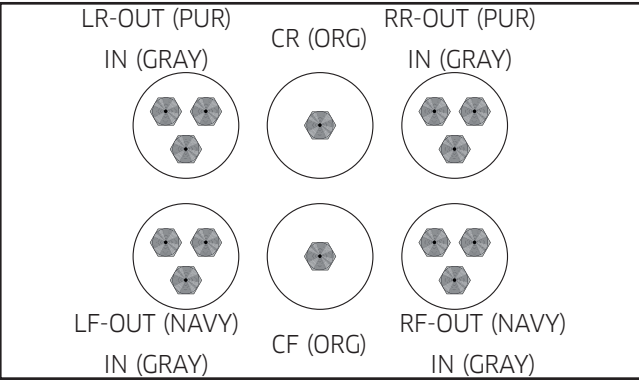
Orifice markings:

180 – Denotes 1.80 mm orifice size opening.

- A. Remove the surface burner grates.
- B. Lift off the surface burner caps and the surface burner heads from the surface burner manifold cups.
- C. Using a 9/32” or 7 mm nut driver, remove the burner orifice from the bottom of each manifold cup.

NOTE

Keep these orifices and note their positions for future conversion back to natural gas.



- D. Identify the proper orifice by orifice size and color code for each of the surface burners.
- E. Install the proper orifices in each of the burner manifold cups as shown above. Tighten with a 9/32” or 7 mm nut driver. Do not overtighten.

NOTE

Any other placement of orifices could result in dangerous operating conditions and/or poor cooking results.

- F. Replace the surface burner heads and caps in the same location from which they were removed. The burner heads should be flat on top of the manifold cups and the caps should be flat on top of the burner heads to ensure proper, safe operation.

3. Converting the oven burners

WARNING

The following adjustments must be made before turning on the gas to the oven burners. Failure to do so could result in death and/or serious personal injury due to high flames and toxic fumes.

The oven has a bake (lower) and a broil (upper) oven burner. Both burners require the orifices to be changed. See the charts in column 2 for the proper orifice usage.

To replace the bake (lower) burner orifice:

- A. Remove the two screws from the back of the cavity floor. Lift back to clear the front edge and lift out the cavity floor.
- B. Remove three screws from the front of the bracket bake-spreader.
- C. Lift front the bracket bake spreader and lift out the bracket-bake spreader.
- D. Lift up the burner bake from the bake burner box.
- E. Using a 9/32” or 7mm nut driver and an adjustable wrench, hold the gas fitting with the wrench and remove the bake oven burner orifice from the center of the lower gas fitting.

- F. Install a properly sized burner orifice for the lower oven burner using LP gas.
- To replace the broil (upper) burner orifice:**
- G. Remove 1 screw of bracket HSI-wire.
- H. Remove 4 screws of bracket-broil spreader to top of oven.
- I. Support the burner-broil with one hand, remove 1 screw supporting the burner-broil to the front of the oven.
- J. To replace the nozzle broil-burner, remove the gas nozzle with a 9/32" nut driver.
- K. Install a properly sized burner orifice for the upper oven burner, using LP gas.
- L. Position end of upper oven burner over the burner orifice and secure it in place with the front screw.

4.Adjusting the air shutter settings on the oven burners

NOTE

To ensure proper flame characteristics, install and close the oven door before checking the oven burner flames.

- A. Install and close the oven door.
- B. Open the gas shut-off valve to the range.
- C. Plug in the power cord or connect the power supply to the range.
- D. Turn the mode selector knob to the Bake position, and then use the temperature selector knob to set the baking temperature.
- E. Visually check the flame characteristics through the oven window.

- The inner cone of the flames should be approximately 1/2" to 3/4" long.

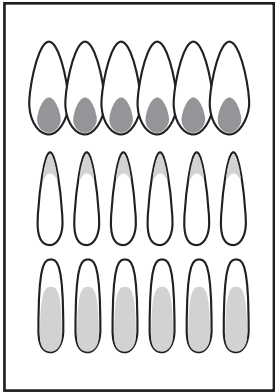
- The visual appearance of the flame will denote the flame combustion quality.

Soft blue flames are normal for natural gas operation.

Yellow tips on outer cones are normal for LP gas operation.

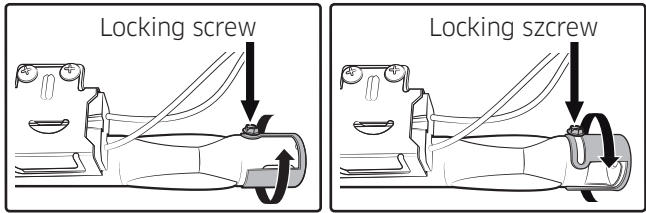
Yellow flames are abnormal for any gas operation. Further adjustment required.

Orange flames occur from foreign particles in the gas line. The particles will burn off and the orange flames will disappear.



⚠ WARNING

Use caution when measuring the flames and adjusting the air shutter. The burner flames could burn you or ignite your clothes causing personal injury and/or death.



- F. After pull out the bake burner from bake burner box, loosen the locking screw and adjust the oven burner air shutter. Clockwise rotation will open the air shutter and increase airflow. Counterclockwise rotation will close the air shutter and decrease airflow.

NOTES:

- If the flames are yellow, the air shutter on the burner needs to be opened further.
- If the flames flutter or blow away, the air shutter on the burner needs to be closed further.
- We highly recommend that the air shutter be fully opened in case of using LP gas.

- G. After flames are adjusted, tighten the locking screw.
- H. Rotate the mode selector knob to the Broil position, and then use the temperature selector knob to set the broiling temperature to HI or LO. Repeat Steps E~G.
- I. Turn off the oven, install the oven bottom, and replace the oven racks.

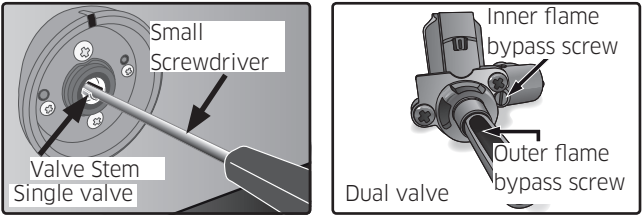
5.Adjusting low flame settings on surface burners

All surface burner flames should be checked and adjusted at their lowest setting.

NOTE:

Low setting adjustments should always be made with 2 or more burners operating at the same time.

- A. Turn on 2 or more surface burners and set them HI.
- B. Quickly turn one of the control knobs counterclockwise to the lowest setting. The flame should stay lit. If the flame flutters or goes out, adjust the bypass valve in the base of the valve stem for that control knob.
- C. Pull the control knob for that burner straight off.



- D. Insert a small flat-blade screwdriver into the valve stem. While holding the valve stem in place, turn the bypass valve adjusting screw counterclockwise to increase the flame size.
- E. Replace the control knob and repeat Steps A and B.
- F. Repeat Steps A~E to check and adjust the remaining surface burners.

Additional low flame check

Quickly open the oven door while a surface burner is set on LO. If the flame is extinguished, increase the low flame setting and repeat the test until the flame is stable.

INFORMATION CODE CHART

1. Touch **LIGHT** and **LIFT PANEL** for 5 seconds to display information code chart.
- To return to normal display mode, touch same keys for 5 seconds.
2. Touch **Error_Dis**. The latest 5 check codes can be checked on display.

	Cavity_1		Cavity_2		
	Upper	Hi Mode	Hi Stage	Hi Current Temp	Hi Current AB
TIMER	Lower	Hi Current Temp	Hi Preheat	Hi Preheat	Preheat
	ETC				
SETTINGS	Relay_1	Gas Sensor AB	Calibration		
	Relay_2				
LIGHT	Update	Factory Reset	Install Test	Steam Use Clear	Error_Dis
					OFF
					LOCK
					0(3sec)
					LIFT PANEL

INFORMATION CODE CHART

Displayed code	Possible cause	Solution
C-d1	This code occurs if the door lock is mispositioned.	Press OFF , and then restart the oven. If the problem persists, disconnect all power to the oven for at least 30 seconds and then reconnect the power. If this does not solve the problem, call for service.
C-F0	This code occurs if communication between the Main and Sub PBA is interrupted.	
C-F2	This code occurs if communication between the Main and Touch is interrupted.	
C-20	The oven sensor is open when the oven is operating.	
	The oven sensor is short when the oven is operating.	
C-21	This code occurs if the internal temperature rises abnormally high.	Restart the appliance.
C-23	The temp probe sensor is short when the oven is operating.	Press OFF , and then restart the oven. If the problem persists, disconnect all power to the oven for at least 30 seconds and then reconnect the power. If this does not solve the problem, call for service.
C-30	The PCB sensor is open when the oven is operating. The PCB sensor is short when the oven is operating.	
C-31	This code occurs if the PCB temperature rises abnormally high.	Call for service.
C-A2	The cooling motor is operating abnormally.	Call for service.

COMPONENT TESTS - BASIC OVEN

Figure	Tests measure	Results
	- Measure resistance value of Motor terminal after taking off harness from Motor. - Measure Voltage of Motor's terminal after making oven work by pressing bake keypad. (Make sure that voltage has to be measured for more than 1 minute because Fan is supposed to on-off Cycling work.)	Approx. - Convection Fan : 20-30 Ω - Terminal voltage of convection fan : 120 V - Replace or repair harness - Replace or repair main PCB
	- Measure the state of micro switch and motor after taking off harness from the heater. - Check whether lock work normally by pressing Lock (3 sec) for 3 seconds.	- Lock motor Resistance : 1600-2200 Ω (at the room temperature) voltage : 120 V - Micro switch COM-NC, COM-NO - Replace or repair if harness has been loosen or disconnected.
	- Check whether the resistance values of oven sensor is same with a chart's one. - Check whether wire or housing has been loosen or disconnected.	Approx. At the room temperature : 1080 Ω

PCB INFORMATION

LCD SUB	
CNS100	This is connector for Power from SMPS PBA.
CNS200	This is connector for lighting knob and communicate with Touch IC.
CNS202	This is connector for Door LED, Rotary switch and communicate with Bluetooth, Main PBA.
CNS203	This is connector for Bluetooth SW, Pop up SW, Valve SW, Lamp SW, Reservoir SW and Temp Knob.
CNS500	This is connector for Sensing Knob.
CNS600	This is connector for key backlight.
CNS601	This is connector for HASS, Knob.
CNS602	This is connector to communicate with LCD PBA.
CNS700	This is connector for Pop up display motor.
CNS905	This is connector for Shower-light.
CNS906	This is connector for Shower-light.

WALL MAIN PCB	
CN100	This is to supply power with SMPS.
CN200	WATER TANK MOTOR-CW, WATER TANK MOTOR-CCW, DOOR LAMP, LIVE
CN202	This is connector which is connected with Cooling Motor (Upper, Lower).
CN203	CONV FAN U, DOOR LOCK, AC120V_LINE
CN204	CONV FAN L, WATER PUMP, DRAIN PUMP
CN300	This is connector which is connected with Door plunger switch and Door lock switch, divider switch and Cooling Fan TCO.
CN320	This connector which is connected with oven sensor (Broil temp sensor, Meat probe sensor).
CN340	This connector which is connected with SET GND.
CN430	This is connector for writing Micom and connect with SET GND.
CN450	This connector is for HASS.
CN460	This connector is for connecting SET GND.
CN470	This is connector which is connected with Sub PCB to communicate.
RY200	Circuit is designed to have broil relay or convection relay working after DLB relay is working by Double line break. (reversing position of the Red wire will not cause a problem)
RY201	This is relay which control source of DLB, Bake, Broil, (Conv. heater, Steam heater) relay.
RY203	Broil relay (RY203), Bake relay (RY204) turned ON/OFF by mi-com signal after DLB relay is has been engaged. (Broil relay : reversing position of the Brown wire will not cause a problem) (Bake relay : reversing position of the Blue wire will not cause a problem)
RY204	
RY210	This is relay to control Cooling Motor which is in upper cavity.
RY211	This is relay to control Cooling Motor which is in lower cavity.
RY214	This is relay which is connected with Upper Convection Fan.
RY216	This is relay which is connected with Door Lock Motor.
RY217	This is relay which is connected with Lower Convection Fan.
SSR202	This is relay which is connected with Door Lamp.

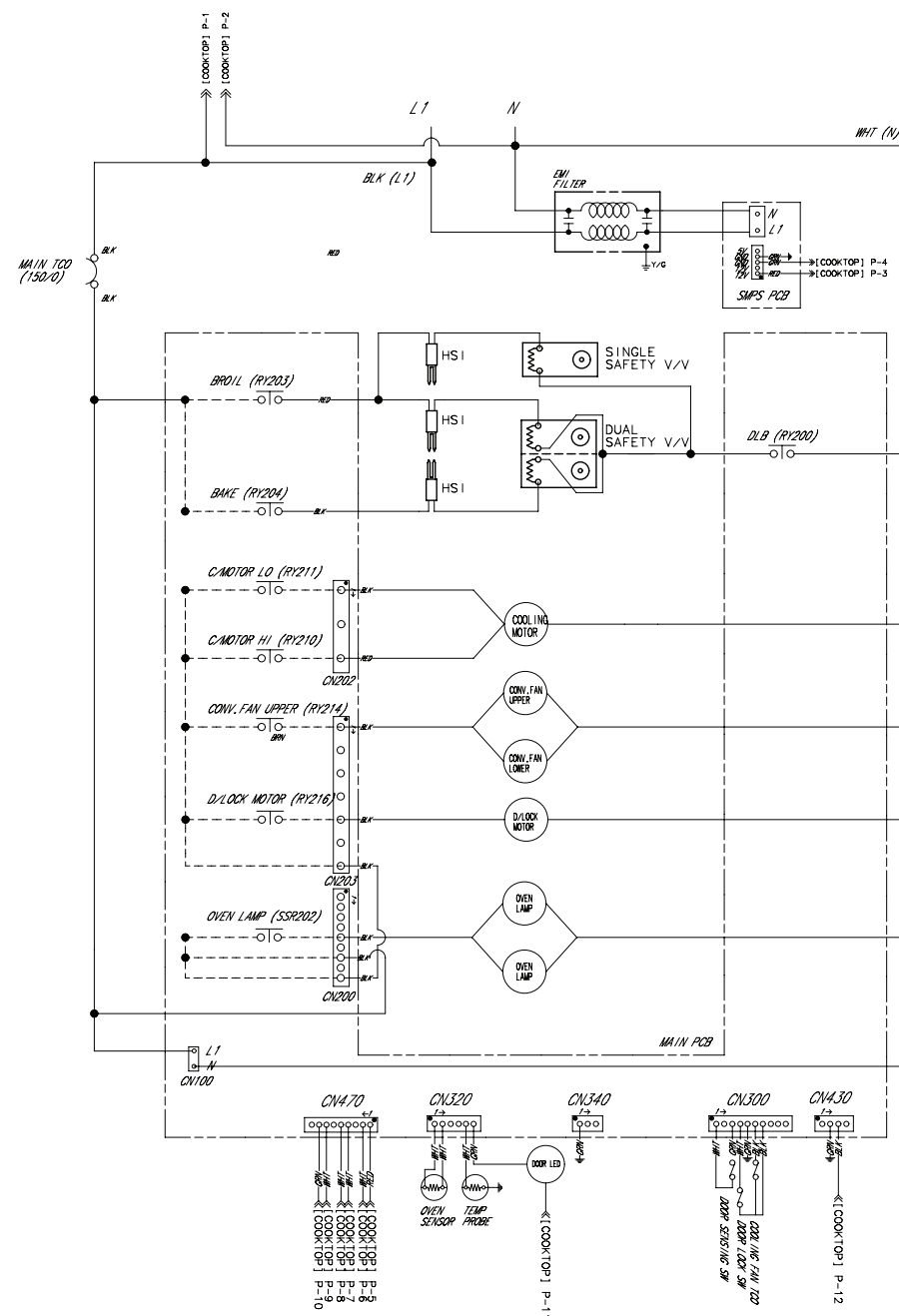
SCHEMATIC DIAGRAM

Model DOP36M96GL*

NOTE

1. CIRCUIT SHOWN WITH ALL CONTROLS SET TO OFF
2. OVEN DOOR OPENED AND UNLOCKED

DESCRIPTION	
	PCB AREA
	PCB PATTERN
	WIRE



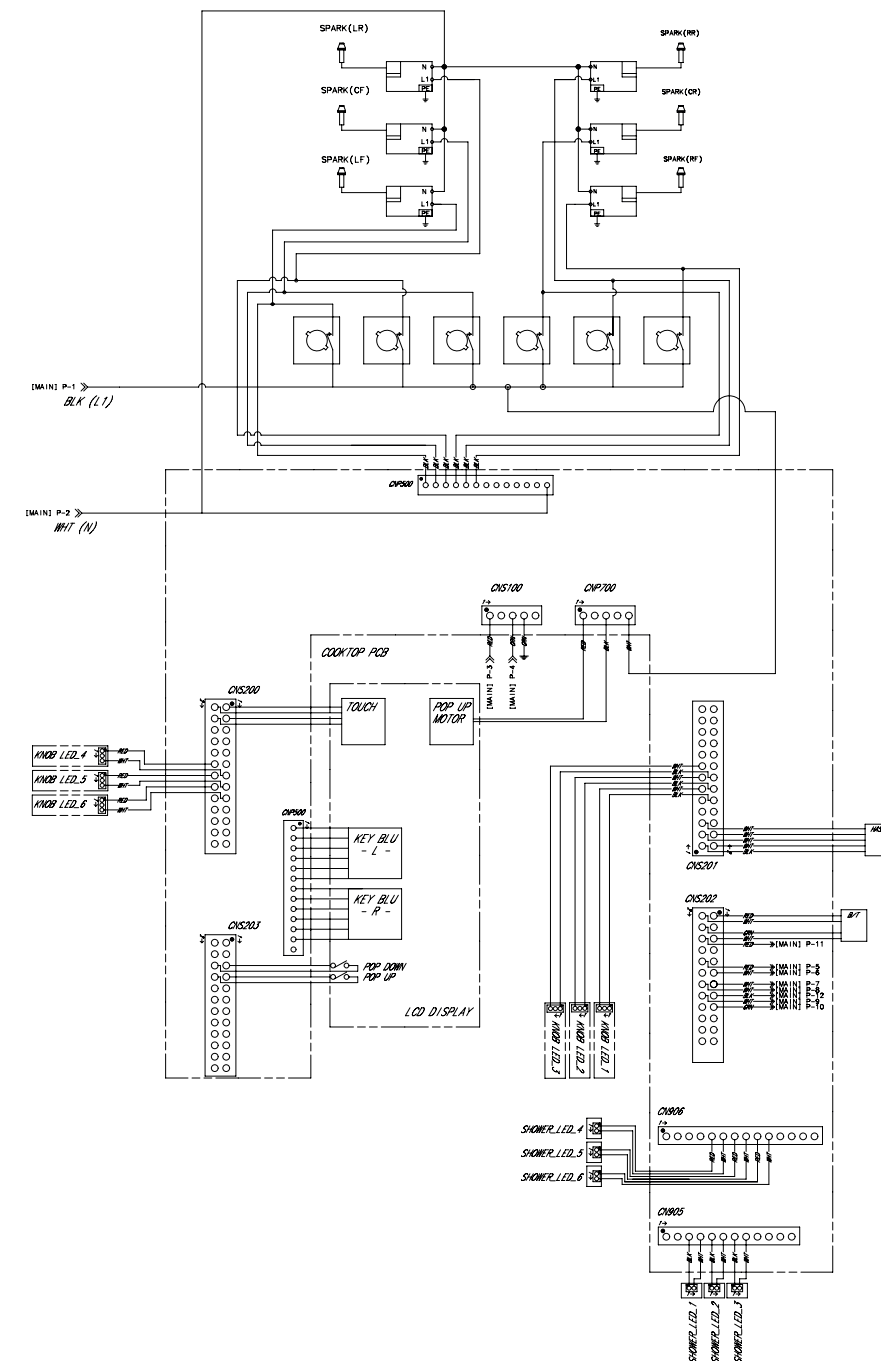
SCHEMATIC DIAGRAM - COOKTOP

Model DOP36M96GL*

NOTE

1. CIRCUIT SHOWN WITH ALL CONTROLS SET TO OFF
2. OVEN DOOR OPENED AND UNLOCKED

DESCRIPTION	
	PCB AREA
	PCB PATTERN
	WIRE



DG68-01108C-01