

Instructions for Converting Range to Operate on Liquefied Petroleum Gas

**INSTALLATION AND SERVICES MUST BE PERFORMED BY A QUALIFIED INSTALLER**  
**IMPORTANT: SAVE INSTRUCTION MANUAL FOR THE LOCAL INSPECTOR'S USE.**  
**READ AND SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE**

**⚠ WARNING** This conversion kit must be installed by a qualified service technician in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. Failure to follow instructions may result in fire, explosion or production of carbon monoxide causing property damage, personal injury or loss of life. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with this kit.

**⚠ WARNING** Before proceeding with the conversion, shut off the gas supply before disconnecting electrical power to the range. Be sure power supplies are off before installing the conversion kit. Failure to do so could cause serious bodily injury.

Determine the combination of top burners that are featured on your range. Identify the parts you need from this kit to complete the L.P. conversion. When burners are converted from natural to L.P. the BTU ratings are as follows: Note: For operation at elevations above 2000ft., appliance rating shall be reduced at the rate of 4% for each 1000 ft. above sea level.

BTU	Top Burner					Simmer burner	Griddle Burner	Oven Burner		Broil Burner		Bypass Jet
	18000	15000	12000	9000	6000			22000	14000	16500	13000	
Orifice Size	1.22mm/ 1.24mm	1.07mm/ 1.10mm	1.0mm	0.8mm	0.72mm	0.34mm	1.16mm/ 1.22mm	1.32mm	1.10mm	1.18mm	1.05mm	
HRG4804U	NA	3	3	NA	NA	3	1	1	1	1	NA	9
HRG4808U	3	3	NA	NA	NA	3	1	1	1	1	NA	9
HRG4801U	NA	6	NA	NA	NA	6	1	1	1	1	NA	12

## Instructions for Converting Range to Operate on Liquefied Petroleum Gas

### 1. Convert the Pressure Regulator

For 30 inch with 13,000BTU Broiler and all 48-inch gas range, follow the below steps:

According to the steps from 1a to 1g, remove the 30" oven door, the cooking grid and the burner cover. Unscrew the right baffle.



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**LP Position: Plastic Ring is away from the Cap**



**NG Position: Plastic Ring is next to the Cap**

**\*\*IMPORTANT\*\*** Pay attention that the NG and LP are in different direction. All the gas ranges are initially designed with NG position, please have it changed in to LP position.

### 2.Convert Top Burner for LP/ Propane Gas

Save the natural gas orifices removed from the appliance for possible future conversions to natural gas. **You should refer to the following process also to covert unit back to Nature gas.** Take extra care when handling steel parts.

- a. Remove top grates, burner caps and inner burner rings.
- b. Lift off outer burner heads and burner bases.
- c. Remove the factory installed natural gas orifices from the center of the orifice holders using a 7mm nut driver (See Fig. 2c)

Remember to keep the original natural gas orifices for future conversions back to natural gas.

“IMPORTANT” to identify their markings.

c.1. Replace the main orifice for dual burner 15000BTU with orifice size 1.07mm/1.10mm (they are both working fine with the LP 15000BTU burner main orifice).

c.2. Replace the 18000BTU burner orifice in each with orifice size 1.22/1.24mm (they are both working fine with the LP 18000BTU burner).

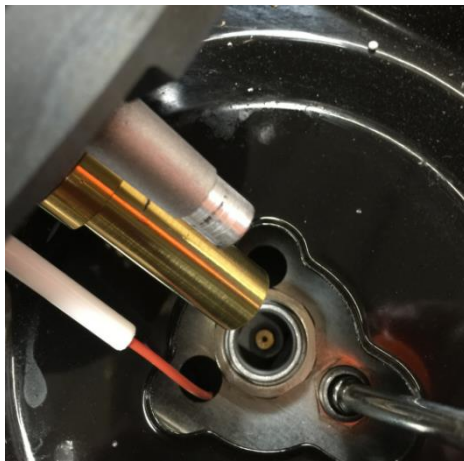
c.3 Replace the 12000BTU burner orifice in each with orifice size 1.0mm. Please remember not to over tighten the orifice and keep the orifice clean.

d. Use a 6mm nut driver to replace the simmer (yellow screw driver), the simmer orifice size is 0.34mm.

**\*\* A small folded piece of scotch tape (sticky side out) inserted in to the socket will help hold the orifice in place\*\*.**

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Put the outer burner heads back to the main burner bases. Put back the inner burner rings, burner caps and grates.



### 3. Convert Oven Burner Orifice for LP/Propane Gas

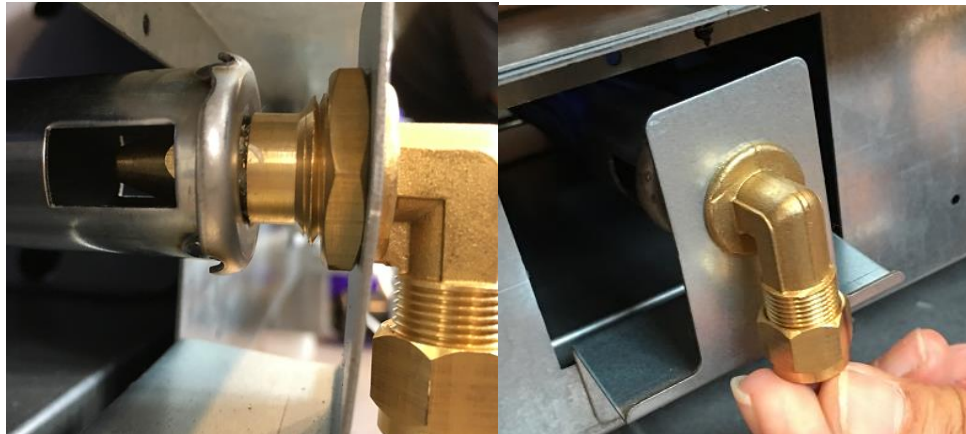
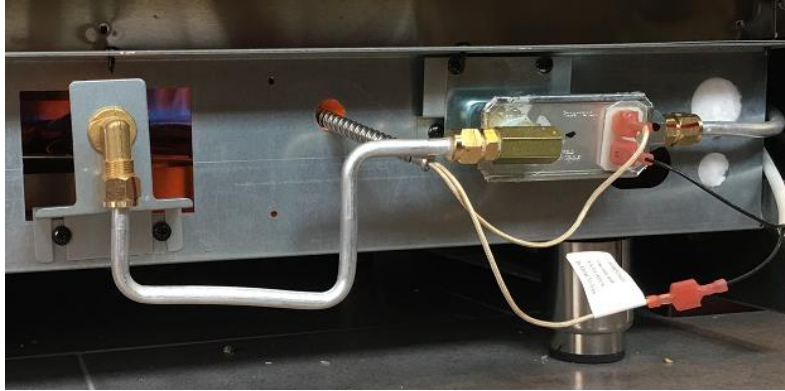
a. Remove the (2) screws on the bottom of the toe kick panel. Hold the bottom edge of toe kick panel at the middle section and slightly lift towards the front. Hold the toe kick panel on both ends and slowly pull away towards the front.

b. Remove the toe kick panel.

c. Remove the (2) screws holding the orifice bracket and locate the orifice. Remove orifice using an adjustable wrench. Replace with oven burner orifice, size 1.32mm (for 48in range's small oven, please replace with orifice 1.10mm) and tighten it. Replace the orifice bracket, aligning the new orifices into the air shutter of the oven burner.

3a

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3 b&c



### 4. Convert Broil Burner Orifice for LP/Propane Gas For all range except 30 inch with 13,000BTU tube broil (HRG3080U), please follow the next several steps:

- a. Remove back guard and back cover.
- b. Using a 14mm or adjustable wrench fix the Orifice holder, and use the 17mm wrench to remove the nut, and 10mm wrench to remove the orifice from the orifice holder. Replace with oven broiler orifice size 1.18mm.

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### 5. Convert Griddle Orifice for LP/Propane (For HRG3609U/HRG3617U" range and 48" range

- a. Remove back guard and back cover (See "Fig. 4a" on previous page);
- b. Remove the oven burner venturi cover for better access. (See Fig. 5b);
- c. Using a 14mm open wrench, fix the orifice holder and using a 17mm wrench to remove the nut. Using a 10mm wrench to remove the orifice from the orifice holder. Replace with griddle orifice size 1.22mm. (Referring to Fig. 4b on previous page.);
- d. Replace gas line and venturi cover.

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### 6. Convert Burner Valves for LP/Propane Gas

- a. Remove control knobs, bezel and control panel
- b. Using a flat screwdriver, replace gas valve bypass jets with bypass jets for LP
- c. Save the main bypass jets, in the plastic bag labeled main jets and simmer bypass jets in the bag for simmer jets.

**When you are using your top burners, if the flame needs to be adjusted accordingly to fit your need, please adjust the bypass orifices on the burner valve.**

**[How to adjust the bypass orifices on HRG gas range models]**

- Screw out NG bypass orifices;
- Screw in LP bypass orifices. All LP bypass orifices are the same. Don't screw in LP bypass to bottom (tightest), make sure it's one cycle before the bottom. Put the knob back and open the burner to simmer function and adjust the position of bypass orifice one more time to get the best flame.

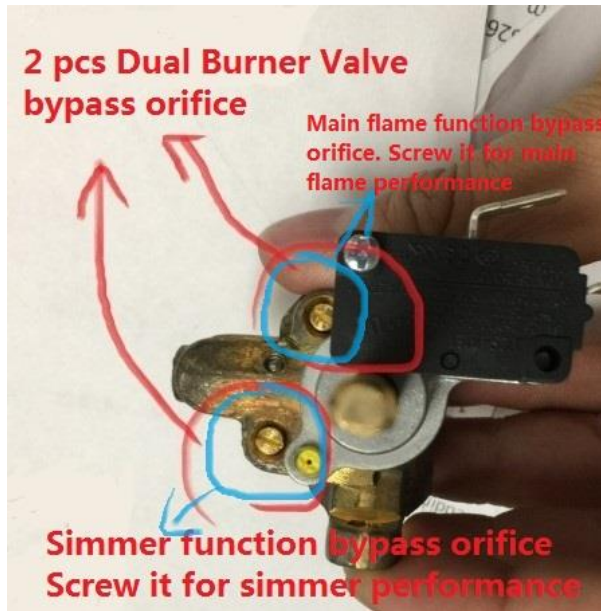
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NG bypass orifice has a number on the side; LP bypass has nothing on the side.

Put back the knob on and adjust the flame by rotating the bypass via a small flat screw driver. Check the flame's condition to get the best performance.

For single valve, it has one bypass orifice; For Dual valve, it has two bypass orifices: left bottom one for simmer adjustment and right front one for main burner adjustment.



### 7. Reconnect Gas and Electrical Supply to Range.

Leak testing of the appliance shall be conducted according to the installation instructions provided with the range.

Checking for Manifold Gas Pressure



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If it is necessary to check the manifold gas pressure, remove the burner cap, inner ring, outer burner head and burner base of the right front top burner and connect a manometer (water gauge) or another pressure test device to the burner orifice. Use a rubber hose with inside diameter of approximately  $\frac{1}{4}$ " and hold the end of the tube tight over the orifice. Turn the gas valve on. For a more accurate pressure check, have at least two other top burners burning. Be sure that the gas supply (inlet) pressure is at least one inch above the specified manifold pressure. The gas supply pressure should never be over 14" water column. When properly adjusted the manifold water column pressure is 10" for LP/Propane gas or 5" for Natural Gas.

### **8. Air Shutter Oven Burner**

The air shutter for the oven burner may need adjustment, especially if the unit has been converted for use with LP/Propane gas.

The approximate flame length of the oven burner is one inch (distinct inner blue flame).

To Determine if the oven burner flame is proper or not

a. With the toe tick removed, set the oven to bake at 350°F and observe the flame. If the flame is yellow in color, increase the air shutter opening size. If the flame is blue lifting away from the burner, reduce the air shutter opening size.

b. Turn off oven and allow it to cool before adjusting the air shutter. To adjust, loosen the lock screw, reposition the air shutter and tighten the lock screw. Retest the burner by repeating the steps above. When the burner flame is a distinct blue color burning steadily, the air shutter is adjusted correctly.

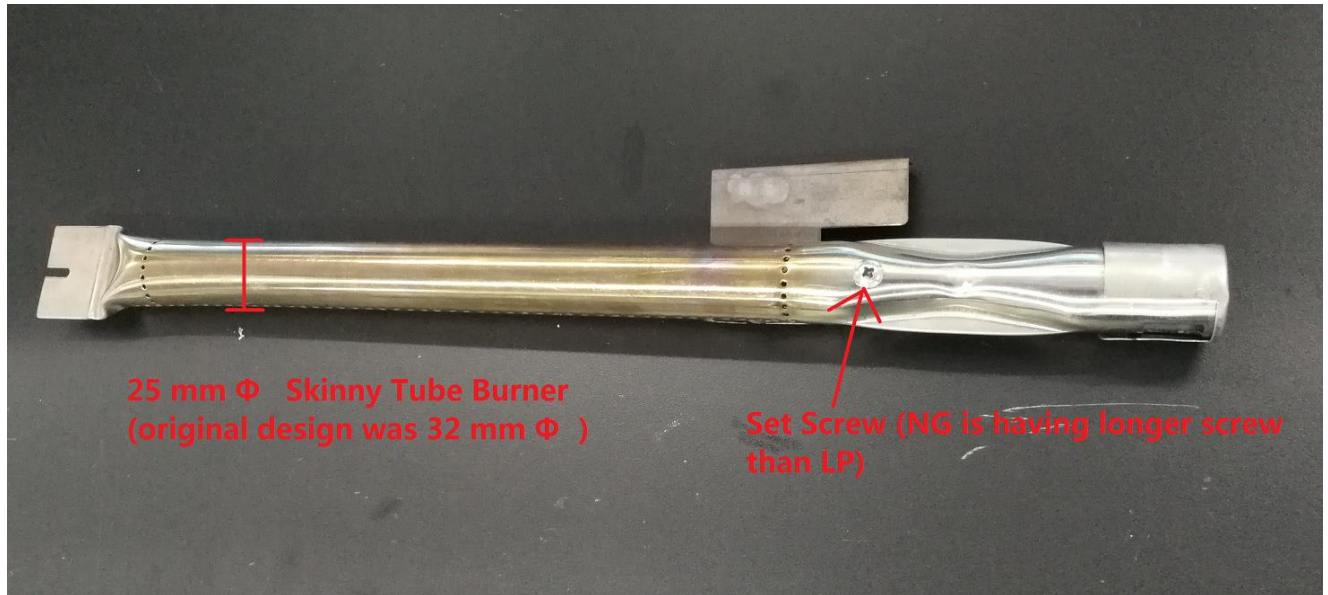
**c. For current design, your 30-inch/36-inch/30-inch oven part on 48-inch gas range's U-shape bake burner is not having an adjustable air shutter design. The gap is designed for both NG and LP.**

**d. For 18-inch oven on 48-inch gas range design: An adjustable air shutter design exists. The opening gap for air shutter on LP will be around  $\frac{1}{4}$ ". Make sure loosening the screw for air shutter, and adjust the air shutter if there's popping sound / unstable flame in the tube burner. The air shutter is VERY SENSATIVE Adjust the air shutter with tiny adjustment.**



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e. You might have a skinny tube burner on your 18-inch oven with a diameter of 25mm. A set screw design is located on this tube burner, for better control of the flame.



NG tube burner is having longer screw; while LP tube burner is having shorter screw (together with LP conversion kit, exchange the screw during the LP conversion). Please contact customer service number if you didn't receive this LP set screw. **You will need this LP set screw only if you are having a skinny tube burner (25mm diameter).**



### **9. Installation of New LP / Propane Rating / Serial Plate**

Record the model and serial number on the LP / Propane Rating serial plate provided in this kit. The information can be obtained from the existing Rating / Serial plate. Place the new plate as close as possible to the existing Rating / Serial plate on the range.

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Do not use a flame to check for gas leaks

- a. Disconnect the range and its individual shut-off valve from the gas supply piping system during any pressure of that system at test pressures greater than 14" of water column pressure (approximately ½" psig)
- b. The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the supply system at test pressure equal to or less than 14" water column pressure (approximately ½" psig)