

# INSTALLATION INSTRUCTIONS

## DNNGHIAT003A00 - Natural Gas High Altitude Conversion Kit

Used On: PGH210-300

**These instructions must be read and understood completely before attempting installation.**

**IMPORTANT:** Read these installation instructions thoroughly BEFORE starting installation. The Natural Gas High Altitude Conversion Kit Accessory is used on the following units:

### Safety considerations

Installation, start-up, and servicing of this equipment can be hazardous due to system pressures, electrical components, and equipment location (roofs). Only trained, qualified installers and service technicians should install, start up, and service this equipment.

When working on this equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment. Also observe any other safety precautions that may apply.

### General

**IMPORTANT:** The Natural Gas High Altitude Conversion Kit is used to install natural gas units at elevations from 2000 ft to 7000 ft. These units are equipped with an IGC (Integrated Gas Unit Controller) board and a direct spark ignition system. Heating input is altered by approximately 4% per 1000 ft of elevation, which can be counteracted by using the recommended orifice sizes. For elevations above 7000 ft, contact the factory for availability of alternate orifice sizes. See Table 2.

**Table 1 - LP Kit contents and usage**

Kit Number	Kit Contents
DNNGHIAT003A00	8 Orifices (LH32RF120, LH32RF129 or LH32RF136) Instructions Conversion Label Warning Label

**Table 2 - Natural Gas High Altitude Conversion Kit Contents and Usage**

Kit Number	Altitude (ft)	ORIFICE PART NUMBER BY TYPE OF SYSTEM			
		Low Heat (5 Cell)	Medium Heat (8 Cell)	High Heat (6 Cell)	High Heat (8 Cell)
DNNGHIAT003A00	0-1,999	LH32RF136	LH32RF129	LH32RF136	LH32RF136
	2,000-2,999	LH32RF136	LH32RF136	LH32RF129	LH32RF136
	3,000-3,999	LH32RF129	LH32RF120	LH32RF129	LH32RF129
	4,000-4,999	LH32RF129	LH32RF120	LH32RF129	LH32RF129
	5,000-5,999	LH32RF129	LH32RF120	LH32RF129	LH32RF129
	6,000-6,999	LH32RF129	LH32RF120	LH32RF129	LH32RF129

### WARNING

#### FIRE, EXPLOSION, ELECTRICAL HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Gas supply **MUST** be shut off before disconnecting electrical power and proceeding with conversion.

### WARNING

#### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Tag disconnect switch with suitable warning label.

### WARNING

#### FIRE, EXPLOSION, ELECTRICAL HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

**Never use a match or other open flame to check for leaks. Use a soap and water solution. Fire or serious injury could result.**

## INSTALLATION:

### Remove Current Burner Assembly

1. Shut off manual gas valve.
2. Shut off power to unit and install lockout tag.
3. Remove heat section access panel. See Fig. 1.
4. Disconnect orange ignitor and white sensor wires from the IGC board.
5. Disconnect wires from gas valve. Mark for reconnection.
6. Remove rollout switch leads at rollout switch. Mark for reconnection.
7. Remove the wire ties securing the rollout switch leads to the manifold.
8. Disconnect the incoming gas piping from the gas valve manifold.
9. Remove the 2 screws securing the burner assembly to the heater. See Fig. 2. Save screws for re-installation of burner assembly.
10. Remove the 2 screws securing the burner assembly to the basepan. Save screws for re-installation of burner assembly. See Fig. 2.
11. Lift and remove burner assembly from unit.

Figure 1 - Access Panel Locations

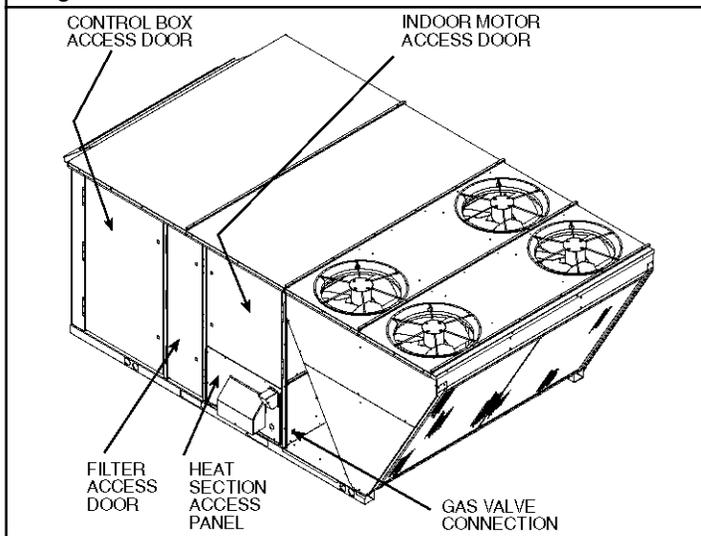
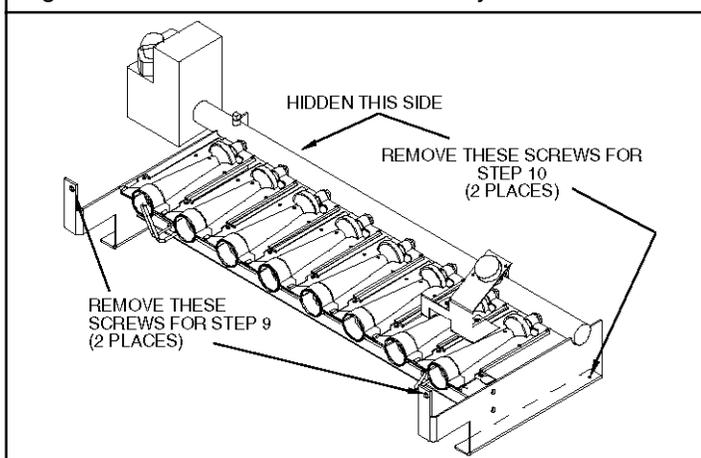


Figure 2 - Removal of Burner Assembly



### Orifice Replacement

1. Remove the 9 screws securing the burners and rollout switch to the manifold. See Fig. 3. Save screws.
2. Remove the orifices from the manifold.
3. Insert the new orifices from the accessory kit. The orifices should be screwed in until 2 threads remain visible.
4. Reattach the burner manifold assembly to the burner brackets using the screws saved from Step 1. Make sure that all orifices have been installed. Reattach the rollout switch at the same time. Make sure the switch is located in its original position. See Fig. 3.
5. Check ignitor gap and adjust if necessary. See Fig. 5 for correct clearances.

Figure 3 - Burner Removal and Rollout Switch Location

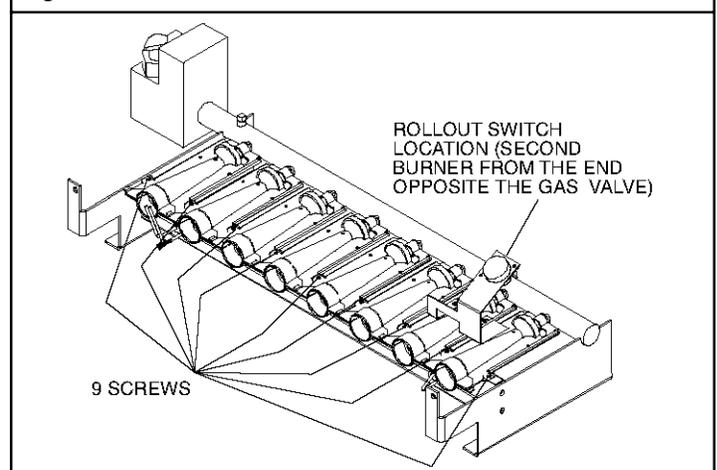


Figure 4 - Orifice Depth

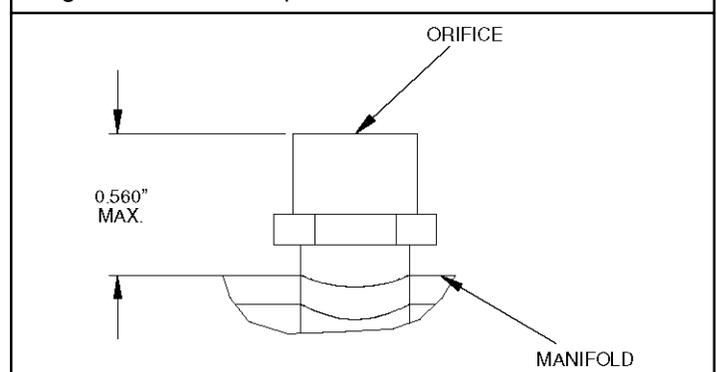
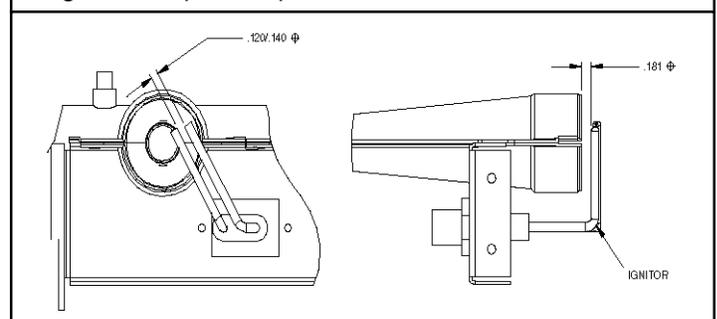


Figure 5 - Spark Gap Detail



## Reinstall Burner Assembly

1. Perform the Remove Current Burner Assembly section steps (4 to 11) in reverse order. Be sure to reconnect wires to the same points from which they were disconnected. Use the wiring label on the access panel as a guide.
2. Replace any wire ties that were removed in previous steps.

## Check Unit Operation and Make Necessary Adjustments

1. Remove manifold pressure tap plug from manifold and connect pressure gage or manometer.
2. Replace heat section access panel. Cover must be in place before applying any power to unit.
3. Turn on electrical supply.
4. Turn on unit main gas valve.
5. Set room thermostat or room sensor to call for heat.
6. When main burners ignite, adjust regulator for 3.0 in. wg manifold pressure for vertical supply units and 2.8 in. wg manifold pressure for horizontal supply units. Check manifold and orifices for leaks.

### **⚠ WARNING**

#### **FIRE, EXPLOSION, ELECTRICAL HAZARD**

Failure to follow this warning could result in personal injury, death or property damage.

**Never use a match or other open flame to check for leaks. Use a soap and water solution. Fire or serious injury could result.**

7. Check firing rate and readjust pressure if necessary. See nameplate.
8. Shut off manual gas valve and shut off power to unit.
9. Remove pressure gage or manometer and replace manifold pressure tap plug.
10. Turn on power to unit. Then turn on main gas valve. With burners ignited, check pressure tap for gas leaks. Repair if necessary.
11. Replace all access panels.
12. Set thermostat to desired temperature.
13. Set spark gap. See Fig. 5.
14. Remove warning tags from disconnect switch and gas supply shutoff valve.

## Service

### **⚠ WARNING**

#### **ELECTRICAL SHOCK HAZARD**

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Tag disconnect switch with suitable warning label.

**Cleaning** – Inspect unit interior at beginning of each heating and cooling season and as operating conditions require. Remove unit top panel and/or side panels for access to unit interior.

**MAIN BURNER** – At the beginning of each heating season, inspect for deterioration or blockage due to corrosion or other causes. Observe the main burner flame.

**FLUE GAS PASSAGEWAYS** – The flue collector box and heat exchanger cells may be inspected by removing burner section access panel, flue box cover, and main burner assembly (Fig. 6). Refer to Step 1 section for burner removal sequence. If cleaning is required, clean tubes with a wire brush.

Use caution with ceramic heat exchanger baffles. When installing retaining clip, be sure the center leg of the clip extends inward toward baffle. See Fig. 7.

**COMBUSTION-AIR BLOWER** – Clean periodically to assure proper airflow and heating efficiency. Inspect blower wheel every fall and periodically during heating season. For the first heating season, inspect blower wheel bi-monthly to determine proper cleaning frequency.

To inspect blower wheel, remove heat section access panel. Using an inspection mirror and flashlight, look into the flue exhaust duct to inspect the wheel. If cleaning is required, remove motor and wheel assembly by removing the screws holding the flue box cover to the flue box. Remove the screws holding the inducer housing to the inlet plate. The wheel can then be removed from the motor shaft and cleaned with a detergent or solvent. Replace the wheel onto the motor shaft in the correct position and reassemble the flue cover onto the flue box.

Figure 6 – Typical Gas Heating Sections

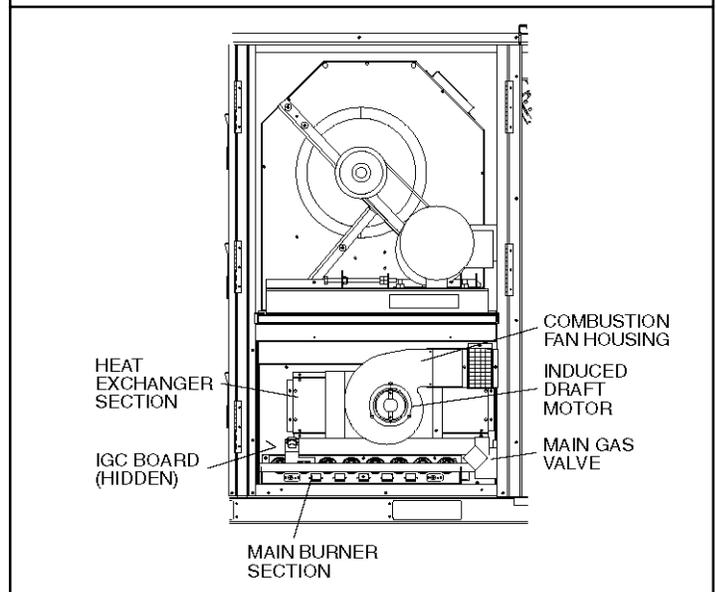


Figure 7 – Removing Heat Exchanger Ceramic Baffles and Clips

