



Installation Instructions

Part No. CRNGHIAT002A00

HIGH ALTITUDE KIT USAGE AND CONTENTS

ACCESSORY PART NO.	USAGE	CONTENTS
CRNGHIAT002A00	48PG16	9 Burner Orifices, Drill Size No. 31, 0.120 in. 9 Burner Orifices, Drill Size No. 32, 0.116 in.

SAFETY CONSIDERATIONS

Read these instructions entirely before installing the accessory high altitude kit into the base rooftop unit.

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.

▲ WARNING

Before beginning any modification, close main gas supply shutoff valve. Be certain that the main line electrical disconnect switch is in the OFF position and lockout tag is installed. Electric shock or fire could result. Tag disconnect switch and gas valve with suitable warning labels.

GENERAL

The high altitude conversion kit is used to install natural gas units at elevations as high as 7000 ft. Recommended orifice sizes will derate the heating input by approximately 4% per 1000 ft of elevation. For elevations above 7000 ft, see Table 1.

INSTALLATION

Step 1 — Remove Gas Manifold Pipe

1. Close the manual shutoff valve on the gas supply piping.
2. Open gas section access door. See Fig. 1.
3. Set the switch on the main gas valve to the OFF position. See Fig. 2.
4. Shut off power to unit and install lockout tag.
5. Disconnect gas piping at unit gas valve.

NOTE: Use a backup wrench to avoid twisting the gas manifold pipe.

6. Remove wires connected to gas valve. Mark each wire to ensure proper reassembly.
7. Remove wires connected to the flame rollout switch. Mark wires.

8. Remove wires connected to igniter and flame sensor. Mark wires.
9. Remove the four screws that attach the gas manifold pipe to the burner bracket and rotate the pipe away from the unit. The pipe should NOT be removed from the wire bundle connecting to the IGC (integrated gas controller) board. See Fig. 3.

Table 1 — Altitude Compensation*

ELEVATION (ft)	48PG16 NATURAL GAS ORIFICE†
0-1,999	30
2,000	30
3,000	31
4,000	31
5,000	31
6,000	31
7,000	32
8,000	32
9,000	32
10,000	35
11,000	36
12,000	37
13,000	38
14,000	39

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 1000 ft.

†Orifices available through your Carrier dealer.

Step 2 — Replace Orifice Fittings

1. Remove standard orifice fittings from the manifold pipe.
2. Select the correct orifice size based on local elevation. Refer to Table 1.
3. Install new orifice fittings.

NOTE: Pipe sealant is not required. Never use Teflon tape on fitting threads since loose pieces may plug gas orifices.

Step 3 — Reinstall Manifold Pipe

1. Attach manifold pipe to the burner bracket using four screws. See Fig. 3. Make sure that all orifice fittings are properly seated in the burner inlets.
2. Reconnect wires to the igniter, flame sensor, flame rollout switch, and gas valve.
3. Reconnect gas piping to the gas valve.

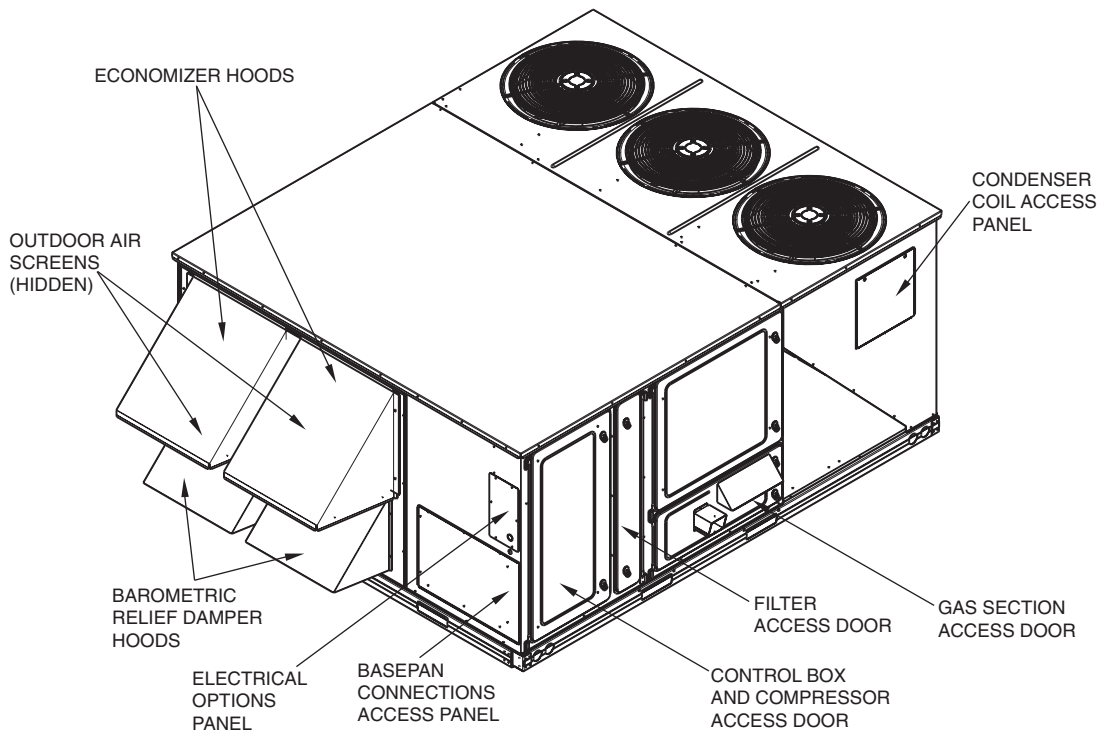


Fig. 1 — Panel and Filter Locations

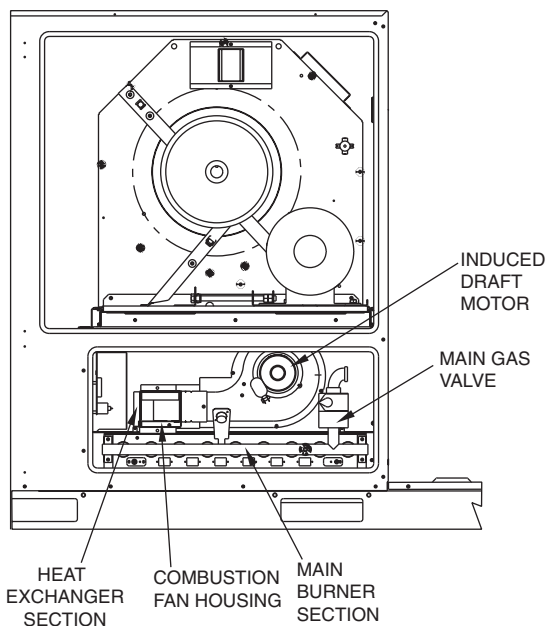


Fig. 2 — Typical Gas Heating Section

Step 4 — Check Unit Operation and Make Necessary Adjustments

NOTE: Gas pressure must not be less than 5 in. wg or greater than 13 in. wg at the unit connection.

1. Remove pressure tap plug from manifold pipe and connect a pressure gage or manometer.
2. Turn on electrical supply.
3. Open the manual shutoff valve on the gas supply piping. Check pipe connection to main gas valve for leaks.

4. Set the switch on the main gas valve to the ON position.
5. Call for high stage heat (W2 energized). The unit may require several ignition attempts due to trapped air in the manifold pipe.
6. When main burners ignite check orifice fittings for leaks. Repair if necessary.

⚠ WARNING

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

⚠ CAUTION

If unit is equipped with a 2-stage gas valve, ensure valve has energized second stage (high fire) before adjusting manifold pressure. Improper manifold pressures may cause explosion or injury.

7. Verify that manifold pressure is between 2.7 and 3.0 in. wg while in high fire (W2 energized). Readjust pressure if necessary.

⚠ WARNING

This unit is designed to operate at 3.0 in. wg (± 0.3 in. wg) manifold pressure at high fire. Exceeding this pressure will cause explosion or injury.

8. Shut down unit by turning down thermostat (units with electro-mechanical control) or putting unit in Service Test mode (units with *ComfortLink*TM control), shutting off manual gas valve, and shutting down power to unit.

9. Remove pressure gage or manometer and replace manifold pressure tap plug.
10. Start up unit. With burners ignited, check pressure tap plug for gas leaks. Repair if necessary.
11. Close and secure gas section access door.
12. Set thermostat to desired temperature (units with electro-mechanical control). For units with *ComfortLink*TM control, to test the operation of the gas section, the HEAT submenu of Service Test may be used. See the Controls Start-Up, Operation, Service, and Troubleshooting Instructions for more details on use of Service Test. For normal operation, make sure that the set points are at the normal heat set points.
13. Remove warning tags from disconnect switch and gas supply shutoff valve.

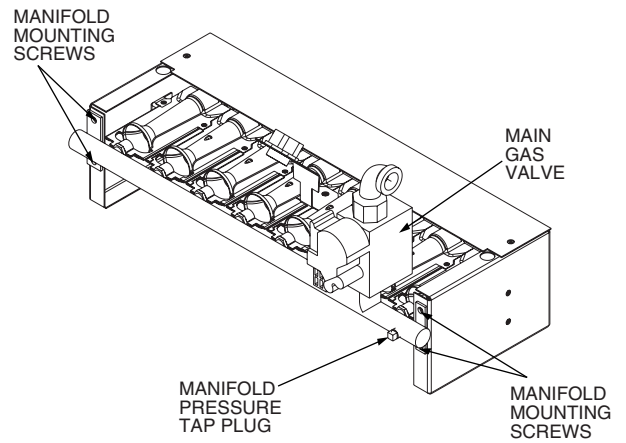


Fig. 3 — Typical Main Burner Section

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