INSTALLATION INSTRUCTIONS
FOR HIGH ALTITUDE KITS: RXGY-F18, F19, F20 & F21 FOR GRK SERIES GAS FURNACE

⚠ WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING ANY MAINTENANCE OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE RESULTING IN FIRE, ELECTRICAL SHOCK, CARBON MONOXIDE POISONING, EXPLOSION, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

RECOMMENDED TOOLS

Slotted Screwdriver
1/4" Nutdriver
Needle-nose pliers
Pipe Wrench (2)
Ratchet with 7/16 socket

⚠ RECOGNIZE THIS SYMBOL AS AN INDICATION OF IMPORTANT SAFETY INFORMATION!

The GRK series, two-stage 34" 90 Plus furnaces, installed at high elevations requires the installation of a high altitude kit for proper operation. The high altitude kit, RXGY-F18 and F20, consists of high-fire pressure switch, the RXGY-F19 and F21 consists of high-fire and low-fire pressure switches. No bracket is included in the kit therefore the original pressure switch or switches must be removed in order to install the replacement switch or switches. All kits contain gas orifices for a 10% de-rate based on 1075 BTU per hour Natural gas heating value (meets Canadian high altitude requirements). Gas orifice sizing information is found in the National Fuel Gas Code. See the furnace I&O manual for more information. On the 75,000 Btu N and the 120,000 Btu units, both the high-fire and the low-fire pressure switches need to be replaced. The 45,000 Btu, 60,000 Btu, 75,000 W Btu, 90,000 Btu, and the 105,000 Btu units will only need the high-fire pressure switch replaced. The kit also contains natural gas orifices for high altitude.

NOTE: Factory installed orifices are calculated and sized based on a sea level Natural gas heating value of 1075 BTU per cubic ft. Regional reduced heating values may nullify the need to change orifices except at extreme altitudes.

For LP applications, please refer to the I&O manual for correct LP conversion kit based on the furnace gas code.

NOTE: The high altitude kit for the 105,000 BTU model contains both high-fire and low-fire pressure switches, only the high-fire pressure switch will be replaced. The low-fire pressure switch will not be replaced.

FOR DENVER COLORADO REGIONAL NATURAL GAS HEATING VALUES

I / H = Q
15000 / 900 = 16.68 $ft.^3$

I = Sea Level input (per burner): 15000
H = Sea Level Heating Value: 900
Q = 16.68 $Cuft^3$ Natural Gas per hour.

Orifice required at Sea Level: #48
Orifice required at 5000 ft. elevation (4% de-rate per thousand ft.): #50
Orifice required at 8000 ft. elevation (4% de-rate per thousand ft.): #51

ALBUQUERQUE NEW MEXICO REGIONAL NATURAL GAS HEATING VALUES

I / H = Q
15000 / 1050 = 14.63 $ft.^3$

I = Sea Level input (per burner): 15000
H = Sea Level Heating Value: 1050
Q = 14.28 $ft.^3$ Natural Gas per hour.

Orifice required at Sea Level: #50
Orifice required at 5000 ft. elevation (4% de-rate per thousand ft.): #51
Orifice required at 8000 ft. elevation (4% de-rate per thousand ft.): #52

LP GAS

LP Gas is a manufactured gas that has consistent heating value across most regions.

The NFGC guidelines are used with the following exception:

The recommended LP Gas high altitude orifice selections differ slightly in that the NFGC LP orifice chart, as they are not accurate for Rheem products. The National Fuel Gas Code LP orifices are based on an 11" of water column pressure at the orifice, which differs from Rheem products that use 10" of water column at the orifice. This difference requires a deviation from the NFGC orifice size recommendations. The Sea Level input should still be reduced by 4% per thousand ft. and the orifice size must be selected based on the reduced input selection chart at top of next page.

Annual Avg. Heat Value (btu per ft³)	Sea level to 1999 ft.	2000 to 2999 ft.	3000 to 3999 ft	4000 to 4999 ft	5000 to 5999 ft	6000 to 6999 ft	7000 to 7999 ft	8000 to 8999 ft.
850	47	48	48	49	49	49	50	50
900	48	49	49	49	50	50	50	51
1000	49	50	50	50	51	51	51	52
1075	50	51	51	51	51	52	52	52
1170	51	51	52	52	52	53	53	53

Natural Gas Orifice Drill Size (4% per 1000 ft. De-Rate)
Burner Input (per burner) 15,000 BTU @ Sea Level

HIGH ALTITUDE KITS			
INPUT	**HIGH ALTITUDE KIT NO.**	**SET POINT HIGH FIRE**	**SET POINT LOW FIRE**
45,000	RXGY-F18	-1.08	NO CHANGE
60,000	RXGY-F18	-1.08	NO CHANGE
75,000 (N)	RXGY-F19	-0.80	-0.40
75,000 (W)	RXGY-F18	-1.08	NO CHANGE
90,000	RXGY-F20	-1.00	NO CHANGE
105,000	RXGY-F19	-0.80	NO CHANGE
120,000	RXGY-F21	-0.50	-0.30

⚠ WARNING

1. **DISCONNECT MAIN ELECTRICAL POWER TO THE UNIT BEFORE ATTEMPTING ANY MAINTENANCE. FAILURE TO DO SO CAN CAUSE ELECTRICAL SHOCK RESULTING IN SEVERE PERSONAL INJURY OR DEATH.**

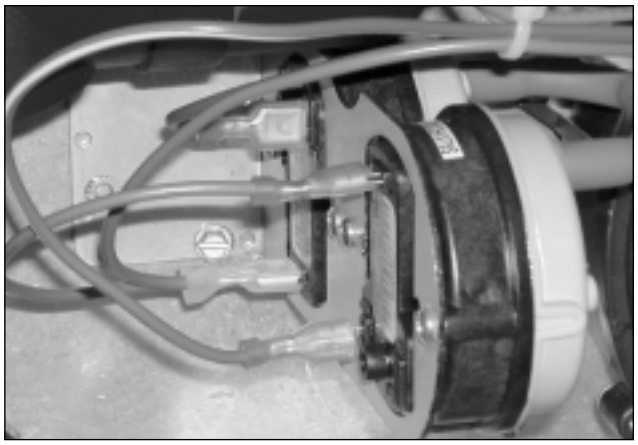
⚠ WARNING

2. **SHUT OFF THE GAS SUPPLY AT A MANUAL VALVE IN THE SUPPLY PIPING TO THE UNIT BEFORE ATTEMPTING MAINTENANCE. FAILURE TO DO SO CAN CAUSE FIRE OR AN EXPLOSION RESULTING IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**
3. Turn the thermostat to the “Off” position.
4. Remove the burner door.

TO REPLACE THE PRESSURE SWITCH:

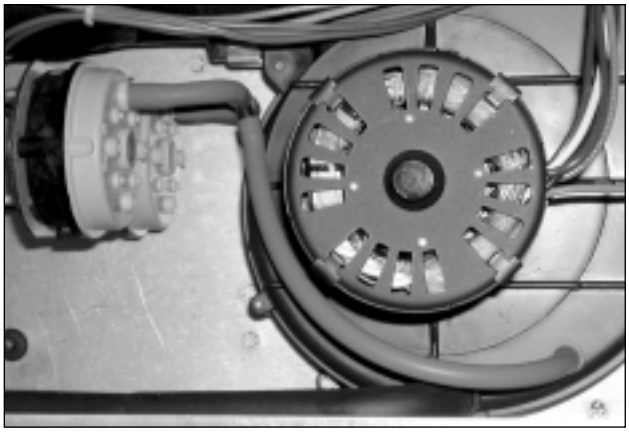
5. Remove the wiring from the existing pressure switches. See Figure 1.

FIGURE 1
PRESSURE SWITCH WIRING AND MOUNTING BRACKET SCREWS



6. Disconnect the pressure switch hoses from the pressure switch assembly. These hoses run to the induced draft blower. See Figure 2.

FIGURE 2
PRESSURE SWITCH HOSE CONNECTING TO INDUCER



7. Remove the pressue switch assembly by removing the screws (2) attaching the pressure switch bracket to the center panel.
8. For 45,000; 60,000; 75,000(N); 90,000; and 105,000 models, remove existing high-fire pressure switch and replace with high-fire pressure switch provided in kit.
9. For 75,000(W) & 120,000 models, remove existing low-fire and high-fire pressure switches, and replace with low-fire and high-fire pressure switches provided in kit.
10. Re-attach all the wires to the pressure-switch assembly. Please refer to the wiring diagram attached to the unit.
11. Use existing screws to mount pressure switch assembly to center panel.
12. Re-attach the hoses to the pressure switch assembly.
13. Turn on the electrical power and the main gas supply to the unit. Set the thermostat at a temperature which causes the unit to operate. Let the furnace operate through several cycles to confirm proper operation.

NOTE: AT ELEVATIONS ABOVE 8,000 FEET, BOTH THE PRESSURE SWITCH AND THE ORIFICES MUST BE INSTALLED.

TO REPLACE THE ORIFICES:

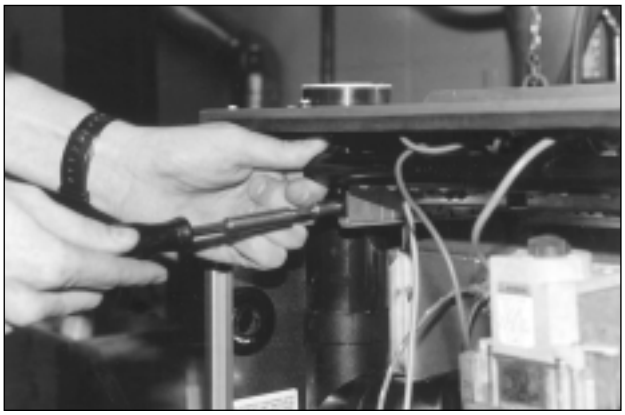
⚠ WARNING

1. **DISCONNECT MAIN ELECTRICAL POWER TO THE UNIT BEFORE ATTEMPTING ANY MAINTENANCE. FAILURE TO DO SO CAN CAUSE ELECTRICAL SHOCK RESULTING IN SEVERE PERSONAL INJURY OR DEATH.**

⚠ WARNING

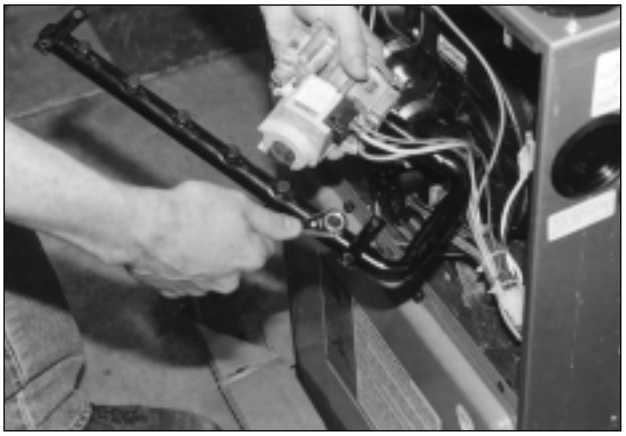
2. **SHUT OFF THE GAS SUPPLY AT A MANUAL VALVE IN THE SUPPLY PIPING TO THE UNIT BEFORE ATTEMPTING MAINTENANCE. FAILURE TO DO SO CAN CAUSE FIRE OR AN EXPLOSION RESULTING IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**
3. Disconnect the gas supply line from the system at the union inside the furnace.
4. Remove the four screws holding the gas manifold to the burner brackets and remove the manifold assembly. **Take care not to damage the wiring.** See Figure 3.

FIGURE 3
REMOVING GAS MANIFOLD



5. Remove the existing orifices from the gas manifold using a ratchet with a 7/16" socket. See Figure 4.

FIGURE 4
REMOVING ORIFICES



6. Replace the orifices with the high altitude orifices from the kit. Screw the orifices in hand tight and secure in place with a quarter turn with the ratchet.
7. Reinstall the manifold assembly on the burner assembly with the four screws removed in Step 4.
8. Re-attach the gas line at the union. Tighten securely with a pipe wrench. ***IMPORTANT:*** *When making gas pipe connections, use a back-up wrench to prevent any twisting of the control assembly and gas valve.*
9. Turn on the gas at the manual gas valve and check for leaks using a soap and water solution or other approved method.

⚠ WARNING

DO NOT USE AN OPEN FLAME TO CHECK FOR LEAKS. USE OF AN OPEN FLAME CAN CAUSE A FIRE OR EXPLOSION RESULTING IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

10. Turn on the electrical power to the unit. Set the thermostat at a temperature which causes the unit to operate. Let the furnace operate through several cycles to confirm proper operation.

NOTE: Refer to I&O for manifold gas pressure.