

See unit nameplate for manufacturer  
and address.  
504,875M  
1/2006  
Supersedes 1/2004

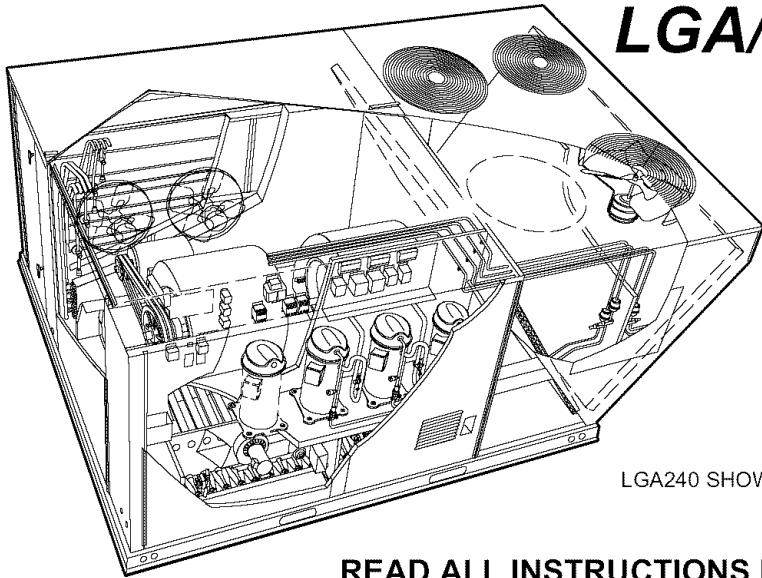
# USER'S INFORMATION MANUAL

**LGA/LGC036, 042, 048, 060, 072**  
(3, 3-1/2, 4, 5, and 6 TONS)

**LGA/LGC090, 102, 120, 150,**  
(7-1/2, 8-1/2, 10, and 12-1/2 TONS)

**LGA/LGC156, 180, 210, 240, 300S**  
(13, 15, 17-1/2, 20, and 25 TONS)

**LGA/LGC248, 300H, 360**  
(20, 25, and 30 TONS)



LGA240 SHOWN

**ROOFTOP  
UNITS**

**READ ALL INSTRUCTIONS IN THIS MANUAL  
AND RETAIN FOR FUTURE REFERENCE**

**TP** Technical  
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FBR113270



## **⚠ WARNING**

### **FIRE OR EXPLOSION HAZARD**

**Failure to follow safety warnings exactly could result in serious injury death or property damage.**



**Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

**Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

### **WHAT TO DO IF YOU SMELL GAS:**

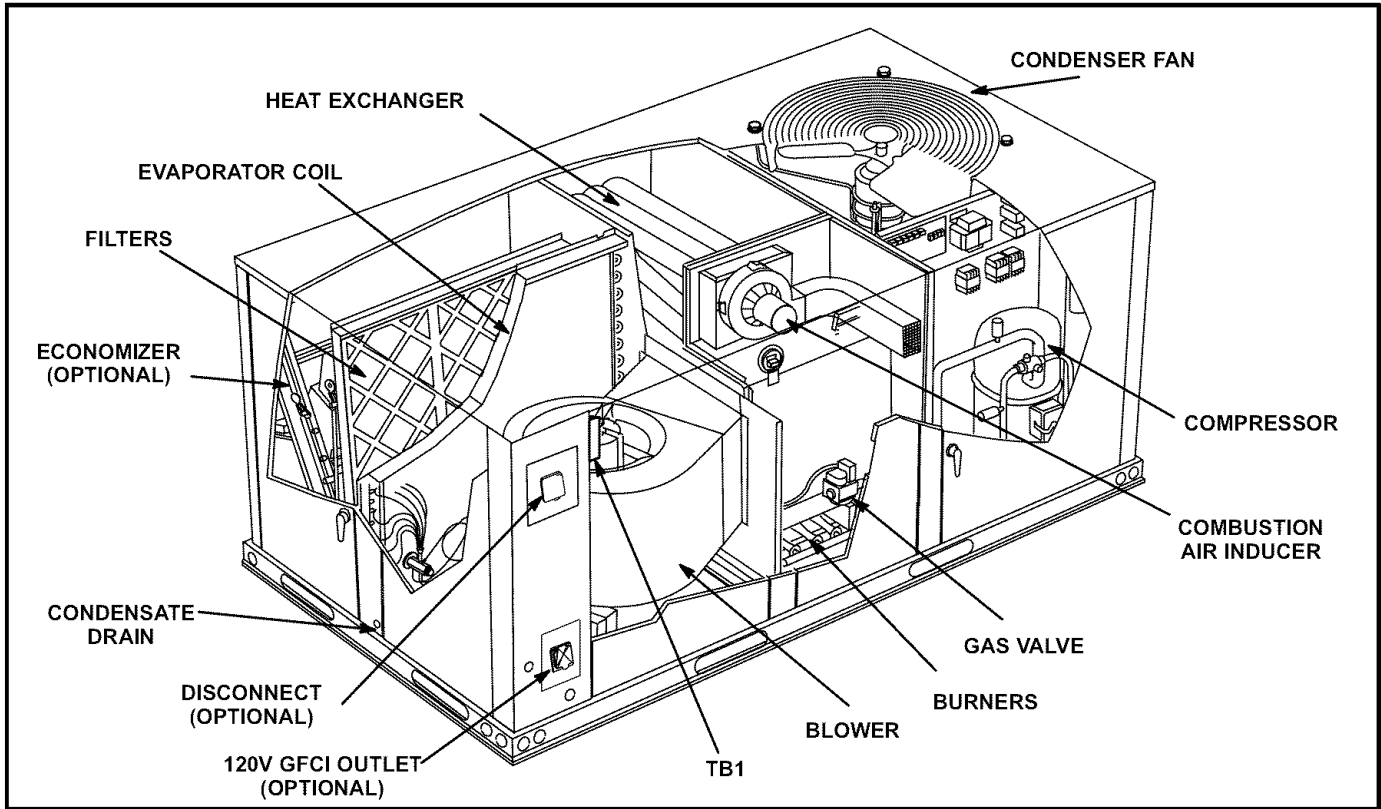
- Do not try to light any appliance.
- Extinguish any open flames.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

01/06

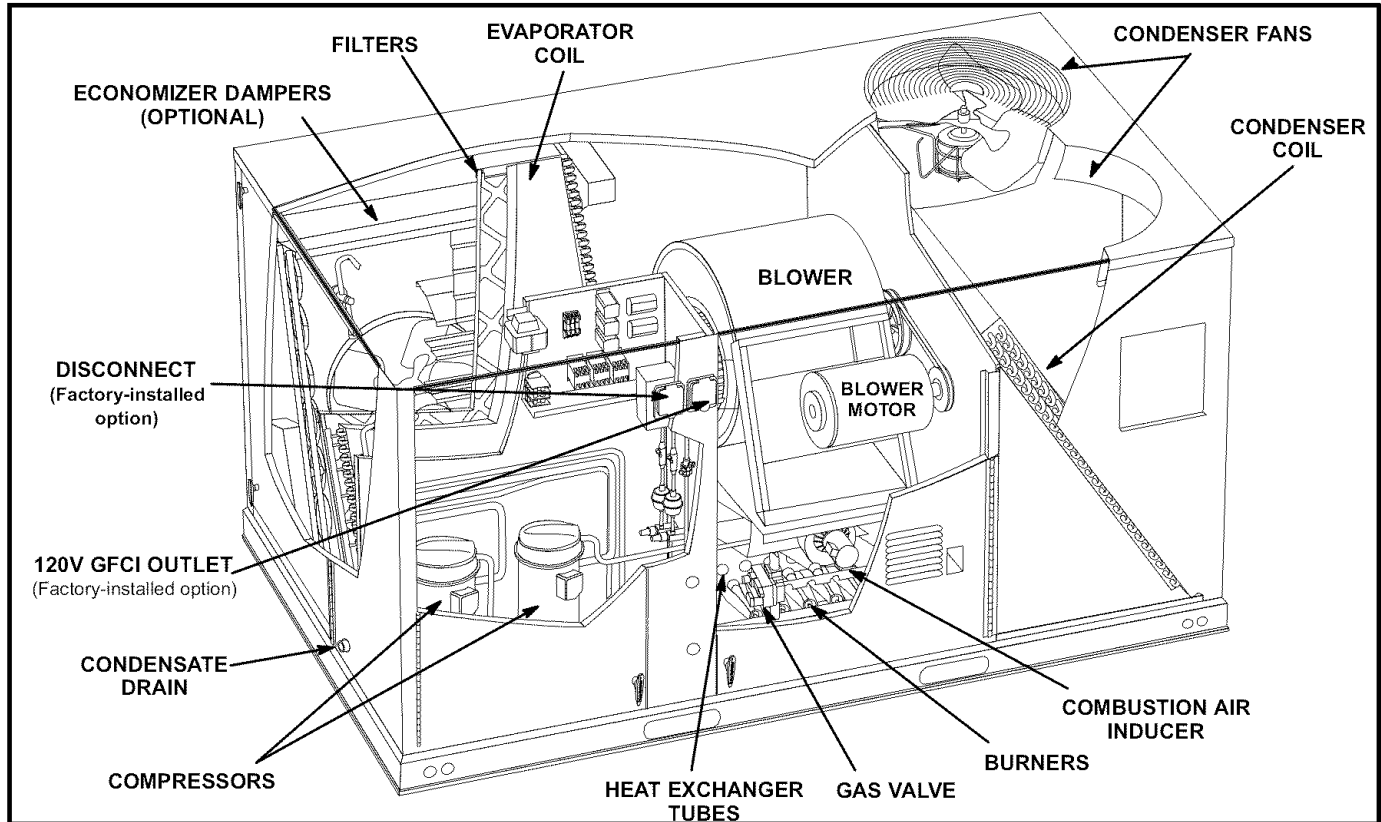
504,875M



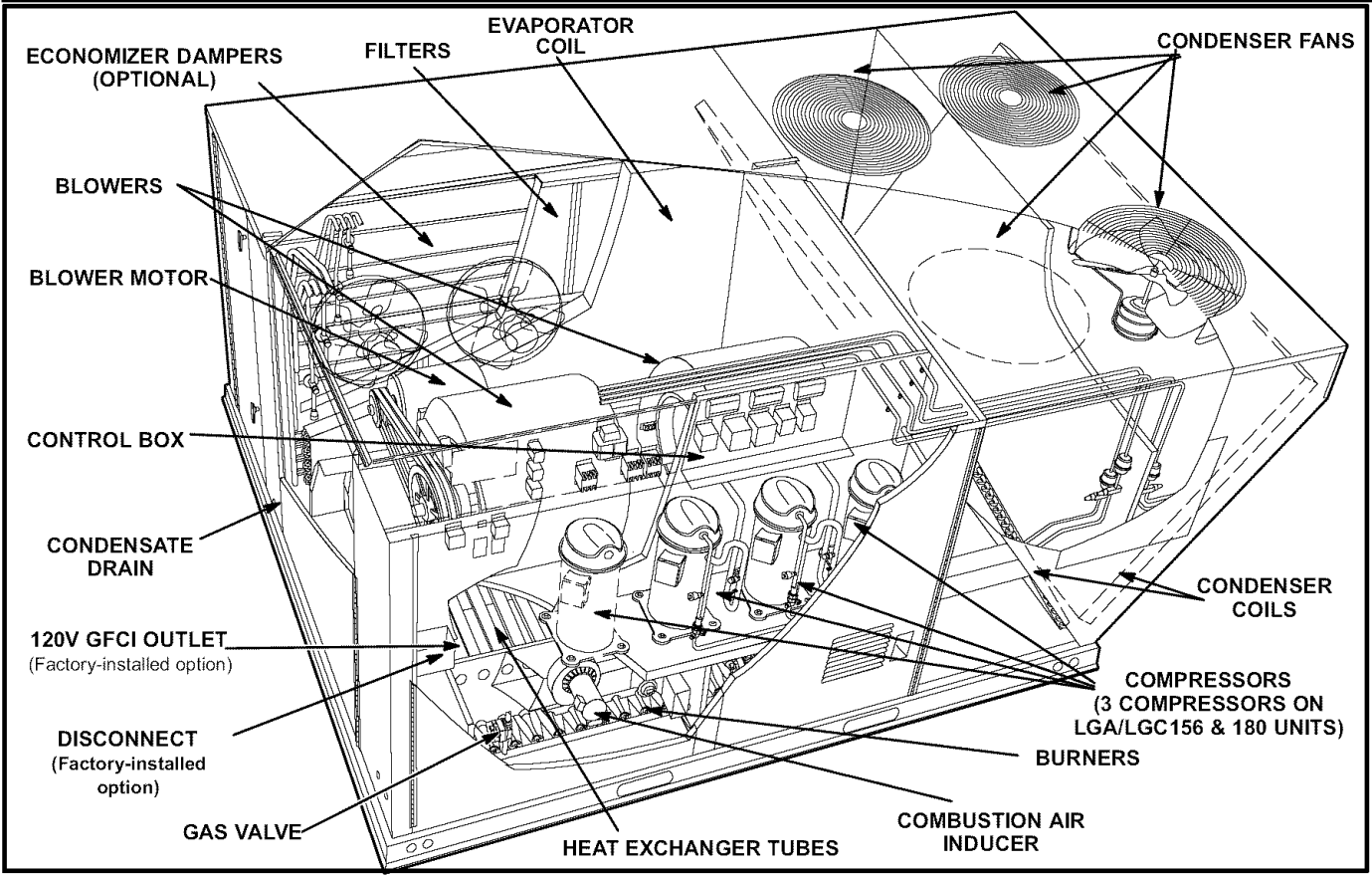
**LGA/LGC036, 042, 048, 060, 072 Parts Arrangement**



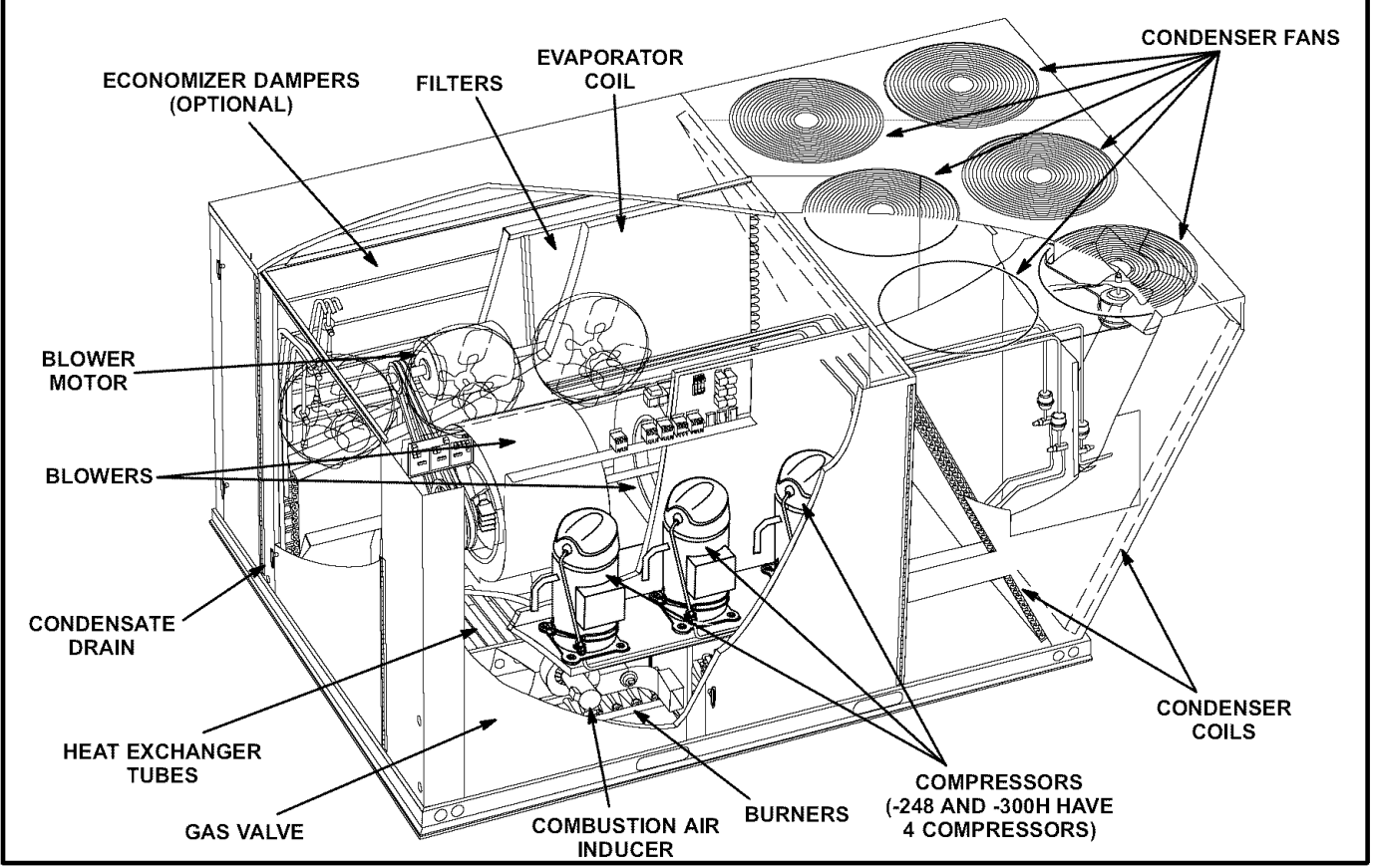
**LGA/LGC090, 102, 120 and 150 Parts Arrangement**



**LGA/LGC156, 180, 210, 240 and 300S Parts Arrangement**



**LGA/LGC248, 300H and 360 Parts Arrangement**



## Safety

- 1 - Keep unit area clear and free of combustible materials, gasoline and other flammable vapors and liquids.
- 2 - Do not obstruct air flow to unit. Unit must receive an unobstructed flow of combustion and ventilating air.

### ⚠ WARNING



Danger of explosion and fire. Failure to follow safety warnings exactly could result in dangerous operation, serious injury, death or property damage.

### ⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

### ⚠ WARNING



Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

### ⚠ WARNING

Product contains fiberglass wool.

Disturbing the insulation in this product during installation, maintenance, or repair will expose you to fiberglass wool. Breathing this may cause lung cancer. (Fiberglass wool is known to the State of California to cause cancer.)

Fiberglass wool may also cause respiratory, skin, and eye irritation.

To reduce exposure to this substance or for further information, consult material safety data sheets available from address shown below, or contact your supervisor.

P.O. Box 79990

Dallas, TX 75379-9900 USA

### ⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

### ⚠ WARNING



Danger of electrical shock, explosion and fire. Improper servicing could result in dangerous operation, serious injury, death or property damage.

### ⚠ WARNING

Do not use this furnace if any part has been under water. A flood-damaged furnace is extremely dangerous. Attempts to use the furnace can result in fire or explosion. A qualified service agency should be contacted to inspect the furnace and to replace all gas controls, control system parts, electrical parts that have been wet or the furnace if deemed necessary.

### ⚠ WARNING



Danger of explosion. Can cause injury or product or property damage. Should the gas supply fail to shut off or if overheating occurs, shut off the gas valve to the furnace before shutting off the electrical supply.

## Unit Operation

### FOR YOUR SAFETY READ BEFORE LIGHTING

**BEFORE LIGHTING** smell all around the furnace area for gas. Be sure to smell next to the roof because some gas is heavier than air and will settle on the roof.

Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

The unit is equipped with an automatic spark ignition system. There is no pilot. In case of a safety shutdown, move thermostat switch to **OFF** and return the thermostat switch to **HEAT**. Electromechanical thermostat is shown in figure 1. For logic units and units with electronic temperature controls, shut off the main disconnect and then turn it on to reset the ignition control.

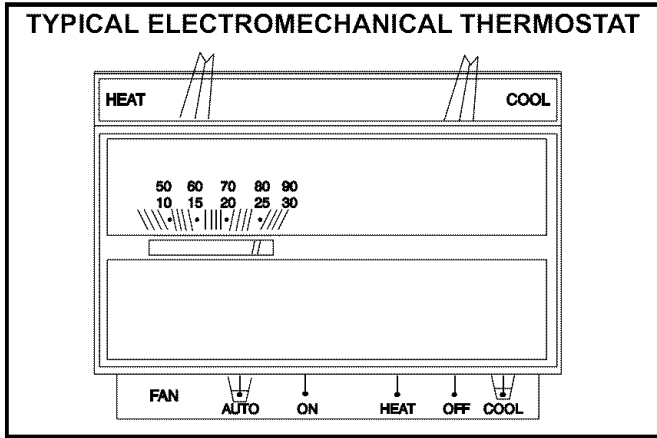


FIGURE 1

Placing Unit Into Operation

**⚠ WARNING**

**Danger of explosion and fire. Can cause injury or product or property damage. You must follow these instructions exactly.**

Gas Valve Operation for White Rodgers 36C (figure 4), White Rodgers 36E (figure 2), Honeywell VR8205M (figure 3), and Honeywell VR8205Q/VR8305Q (figure 5)

- 1- Set thermostat to lowest setting.
- 2- Turn off all electrical power to furnace.
- 3- This furnace is equipped with an ignition device which automatically lights the burner. Do **not** try to light the burner by hand.
- 4- Open or remove the heat section access panel.
- 5- 36C, VR8205, & VR8305 - Turn the knob on the gas valve clockwise ➡ to "OFF". Depress 36C knob slightly. Do not force.  
36E - Turn the knob 180° either way to "OFF".

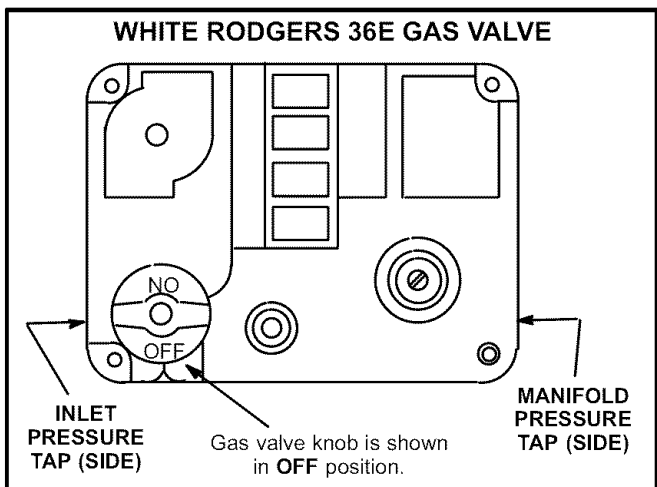


FIGURE 2

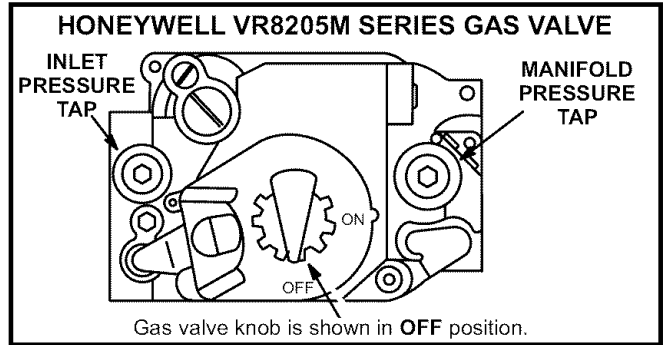


FIGURE 3

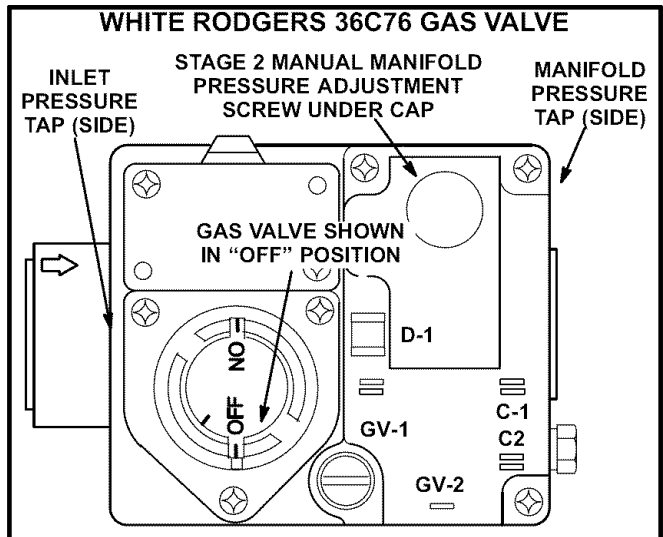


FIGURE 4

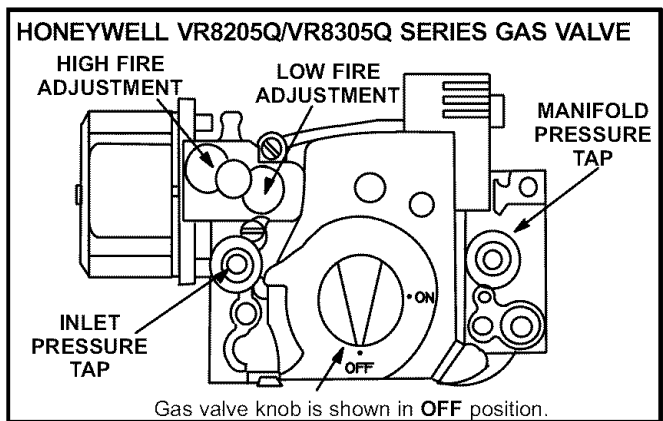



FIGURE 5

- 6- Wait five (5) minutes to clear out any gas. If you then smell gas, **STOP!** Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you do not smell gas, go to the next step.
- 7- 36C, VR8205, & 8305 - Turn the knob on the gas valve counterclockwise ➡ to "ON". Do not force.  
36E - Turn the knob 180° either way to "ON".
- 8- Close or replace the heat section access panel.
- 9- Turn on all electrical power to furnace.
- 10- Set thermostat to desired setting.

- 11- The combustion air inducer will start. The burners will light within 40 seconds.
- 12- If the furnace does not light the first time (gas line not fully purged), it will attempt up to two more ignitions before locking out.
- 13- If lockout occurs, repeat steps 1 through 10.
- 14- If the furnace will not operate, follow the instructions "Turning Off Gas to Furnace" and call your service technician or gas supplier.

### Turning Off Gas to Furnace

- 1- If using an electromechanical thermostat, set to the lowest setting.
- 2- Before performing any service, turn off all electrical power to the furnace.
- 3- Open or remove the heat section access panel.
- 4- 36C, VR8205, & VR8305 -  
Turn the knob on the gas valve clockwise  to "OFF". Depress 36C knob slightly. Do not force.  
36E -  
Turn the knob 180° either way to "OFF".
- 5- Close or replace the heat section access panel.

## ⚠ WARNING



**Danger of explosion. Can cause injury or death. Do not attempt to light manually. Unit has a direct spark ignition system.**

### Burner Flame

## ⚠ WARNING



**Danger of explosion and fire. Can cause injury or product or property damage. Periodically inspect burner flame to ensure proper unit operation.**

The primary air is permanently set for normal operation. The flame will be basically blue with some clear yellow streaking in the end of the flame. Inspect the burner flame periodically during the heating season using the inspection port provided on the burner access panel.

### Flue Passage and Vent Inspection

Annually, before heating season, inspect the combustion air louvers, vent cap, heat exchanger, burners and combustion air inducer for corrosion, deterioration or deposits of debris. Remove any obstructions or blockage. See figures 6 and 7.

### Service

To maintain efficiency and longevity, your equipment must be serviced yearly by a qualified service technician. Failure to provide proof of service can void warranty.

## ⚠ CAUTION

**Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.**

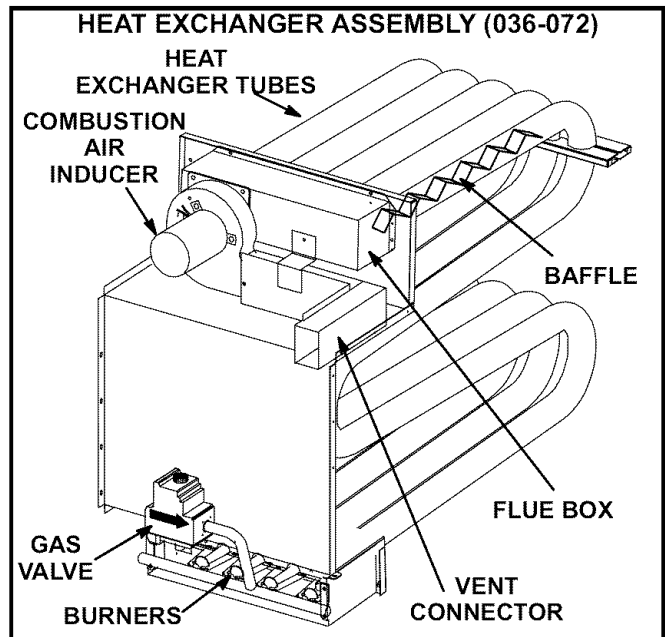


FIGURE 6

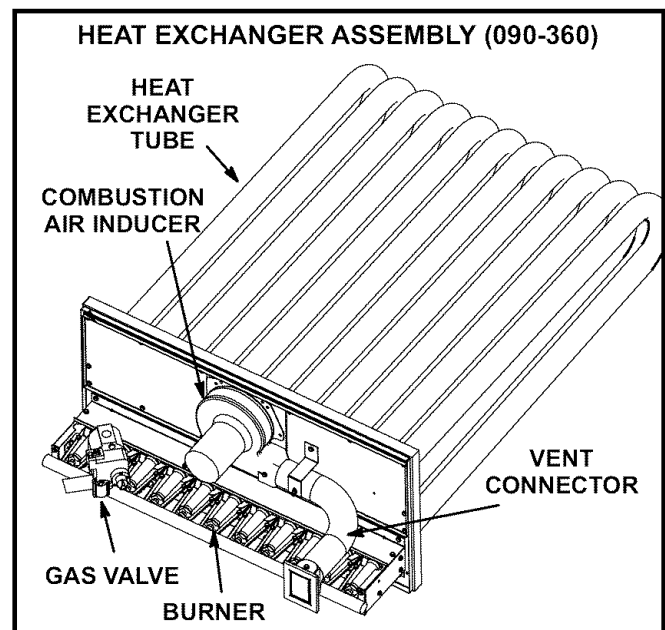


FIGURE 7

## Servicing Filter

Units are equipped with the number of filters shown in table 1. Filters should be checked monthly and replaced when necessary with filters of like kind and size. Take note of air flow direction marking on filter frame when reinstalling filters. See figure 8.

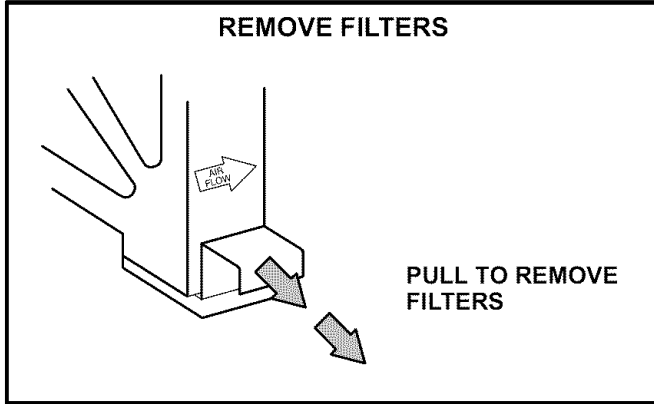


FIGURE 8

NOTE - Filters must be ULC approved or equivalent for use in Canada.

TABLE 1  
NUMBER AND SIZE OF FILTER BY UNIT

LGA/LGC Unit	Qty	Filter Size - inches (mm)
036, 042, 048, 060, 072	2	16 X 25 X 2 (406 X 635 X 51)
090, 102, 120, 150	4	18 X 24 X 2 (457 X 610 X 51)
156, 180, 210, 240, 300S	6	24 X 24 X 2 (610 X 610 X 51)
248, 300H, 360	12	20 X 20 X 2 (508 X 508 X 51)

## Lubrication

All motors are lubricated at the factory. No further lubrication is required.

Blower shaft bearings are prelubricated. For extended bearing life, relubricate at least once every two years with a lithium base grease, such as Alvania 3 (Shell Oil), Chevron BRB2 (Standard Oil) or Regal AFB2 (Texas Oil). Use a hand grease gun for relubrication. Add only enough grease to purge through the bearings so that a bead of grease appears at the seal lip contacts.

## Manifold Pressures

Manifold pressures are shown in table 2. Refer to figures 2, 3, 4 and 5 to locate pressure ports.

TABLE 2  
MANIFOLD PRESSURES in.wg. (kPa)

LGA/LGC Unit	Natural Gas		Propane (LP) Gas	
	1st Stg.± 0.2(±.05)	2nd Stg.± 0.3 (±.08)	1st Stg.± 0.2 (±.05)	2nd Stg.± 0.3 (±.08)
036, 042, 048, 060, 072 Std./High Heat	NA	3.5 (0.87)	NA	10.5 (2.61)
036, 042, 048, 060, 072 Dual Heat	1.9 (0.47)	3.5 (0.87)	5.3 (1.32)	10.5 (2.61)
090 through 360	1.6 (0.40)	3.7 (0.92)	5.5 (1.37)	10.5 (2.61)

## Burners

Clean the burners as follows:

- 1- Turn off the electrical power and the gas supply to the unit.
- 2- Open or remove the burner compartment access panel.
- 3- Remove two screws securing burners to burner support and lift the burners from the orifices. See figure 9. Clean as necessary. Spark gap on ignition electrode must be properly set. Refer to the Heating Adjustment section in the installation instructions.

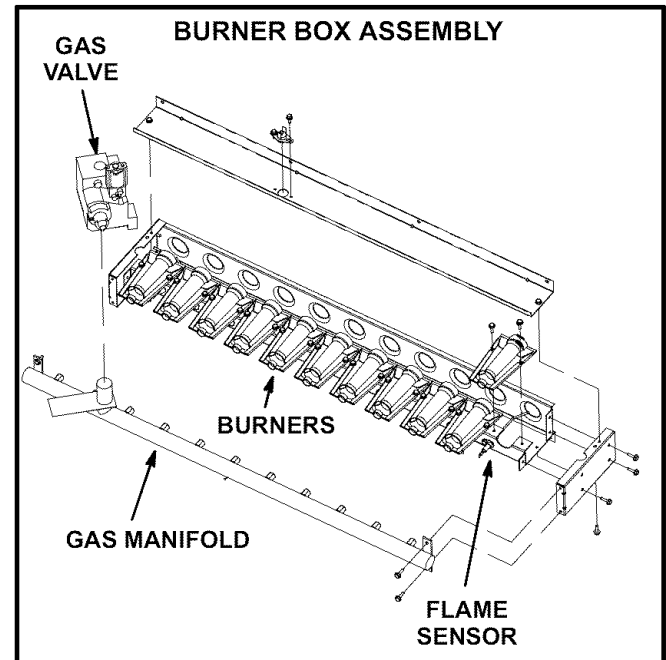


FIGURE 9

- 4- Replace burners and screws securing burner. Replace the burner compartment access panel.
- 5- Turn on the electrical power and the gas supply to the unit. Follow the operating instructions attached to the unit and use the inspection port in the access panel to check the flame.

### Combustion Air Inducer

A combustion air inducer proving switch checks combustion air inducer operation before allowing power to the gas controller. The gas controller will not operate if the inducer is obstructed.

Under normal operating conditions, the combustion air inducer wheel should be checked and cleaned prior to the heating season. However, it should be examined periodically during the heating season to establish an ideal cleaning schedule.

Clean the combustion air inducer as follows:

- 1- Turn off the electrical power and the gas supply to the unit.
- 2- Disconnect the pressure switch air tubing from the combustion air inducer port.
- 3- Remove and retain the screws securing the combustion air inducer to the flue box. Remove and retain two screws from the bracket supporting the vent connector. See figures 6 and 7.
- 4- Clean the inducer wheel blades with a small brush and wipe off any dust from the housing. Clean accumulated dust from the front of the flue box cover.

- 5- Return the combustion air inducer motor and the vent connector to their original location and secure with retained screws. It is recommended that the combustion air inducer gasket be replaced during reassembly.
- 6- Use a small brush to clean the combustion air inlet louvers on the heat access panel.

### Flue Passageway and Flue Box

- 1- Remove the combustion air inducer assembly as described in the Combustion Air Inducer subsection.
- 2- Remove the flue box cover. Clean the flue box with a wire brush as required.
- 3- Clean the tubes with a wire brush.
- 4- Reassemble the unit. The flue box cover gasket and combustion air inducer gasket should also be replaced during reassembly.

### Service Reminder

Call a qualified service technician if the unit is inoperative. Before calling, always check the following to be sure service is required:

- 1- Be sure electrical disconnect switches are **ON**.
- 2- Check room thermostat for proper setting.
- 3- Replace any blown fuses or reset circuit breakers.
- 4- Gas valve should be **ON**.
- 5- Air filters should not be plugged, limiting air flow.
- 6- Make sure all access panels are in place.

### Repair Parts Listing

When ordering repair parts, include the complete model number and serial number listed on the ETL/C.G.A./CSA rating plate - e.g. LGA240H2BH1Y.

#### Gas Heat Section Parts

Heat Exchanger  
 Combustion Air Assembly  
 Combustion Air Proving Switch  
 Burner Assembly  
 Burner Manifold Assembly  
 Main Burner Orifices  
 Flame Roll-out Switches  
 Auxiliary Limit Controls  
 Ignition Electrode Assembly  
 Ignition Lead  
 Ignition Sensor Assembly  
 Sensor Lead  
 Combination Gas Valve  
 Limit Controls

#### Cooling Parts

Compressors  
 Low Pressure Switch

High Pressure Switch  
 Condenser Fan Motors  
 Condenser Fan Blades  
 Condenser Fan Run Capacitors  
 Freezestats  
 Low Ambient Pressure Switch  
 Low Ambient Thermostat  
 Condenser Fan Mounting Bracket  
 Fan Grille  
 Indoor Blower Motors  
 Blower Wheel  
 Expansion Valve  
 Distributor  
 Crankcase Heaters  
 Exhaust Fans (Opt.)

#### Electrical Control Parts

Main Control Panel  
 Economizer Control Panel (Opt.)

Compressor 2 Control Panel  
 Compressor 3 and 4 Control Panel  
 Gas 2 Control Panel  
 Compressor Contactors  
 Circuit Breakers (Opt.)  
 Transformer (Control)  
 Transformer (Contactor)  
 Transformer (CAB)  
 Blower Contactor  
 Limit, Blower Relay  
 Heat Relays  
 Condenser Fan Relays  
 Capacitor CAB  
 Relay CAB  
 Low Ambient Relay  
 Low Amb. Low Pressure Switches  
 Disconnect Switch (Opt.)  
 Blower Motor Overload Relay