

USER INFORMATION MANUAL POWER VENTED GAS FURNACE

WARNING

IF INSTALLED IN AN ENCLOSED AREA, SUCH AS A GARAGE OR UTILITY ROOM WITH ANY CARBON MONOXIDE PRODUCING ITEM (i.e. AUTOMOBILE, GAS FIRED SPACE HEATER, ETC.) INSURE THAT THE AREA IS PROPERLY VENTILATED AND THE CIRCULATING AIR IS COMPLETELY SEALED TO PREVENT THE PRODUCTS FROM ENTERING THE LIVING SPACE.

IMPORTANT

The furnace area must be kept clear and free of combustible materials, gasoline, and other flammable vapors and liquids.

When installed in an insulated space, the furnace must be kept free and clear of insulating materials. If additional insulation is added, make sure the furnace is free and clear of this material, which may be flammable!

It is essential not to block or obstruct the following areas as improper combustion and ventilation may occur.

- a. The combustion air inlet on the furnace.
- b. The air openings in the furnace room or furnace area.
These areas provide combustion air through the air inlet and dissipation of flue products through the vent.
- c. Combustion air supply pipe.

| WHAT TO DO IF YOU SMELL GAS | WARNING | FOR YOUR SAFETY |
|--|---|---|
| <ul style="list-style-type: none">• DO NOT try to light any appliance.• DO NOT touch any electrical switch; DO NOT use any phone in your building.• 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. | <p>IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.</p> | <p>DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.</p> <p>Installation and service must be performed by a qualified installer, service agency or the gas supplier.</p> |

The furnace system should be inspected annually by a qualified service technician.

SAFETY FEATURES

All of the safety switches on this furnace are designed to prevent a potentially hazardous situation from occurring. It is important not to bypass or alter any of these devices.

1. The blower interlock switch insures the blower access door is in place. If the furnace is operating with this panel removed, it may result in Carbon Monoxide (CO) fumes being circulated throughout your structure. CO can cause serious injury or death.
2. If the vent pipe or combustion air supply pipe is restricted or should the vent blower fail to operate, a pressure switch will prevent (or extinguish) the burner operation.
3. The flame rollout switch mounted in the burner vestibule can only be reset manually. This switch is designed to detect burner flames outside the heat exchanger.
4. The high limit switch prevents excessive heat exchanger temperatures. A common cause of this situation is inadequate return air due to dirty filters, placement of furniture over circulating air registers, or otherwise restricting the circulating air passageway. Prior to calling a service technician, make sure that these conditions do not exist.

WARNING

If any of the above safety devices should function, do not attempt to reset, repair or bypass. Contact a qualified service agency to inspect prior to returning the unit to operation. Failure to do so can cause personal and/or property damage or loss of life.

SEQUENCE OF OPERATION

Your high efficiency gas furnace operates in a similar manner to a conventional gas furnace with a few differences. These differences include an energy saving electronic ignition system on all models. The vent blowers used on these furnaces minimize the loss of conditioned air while the furnace is not in operation.

The following is the normal sequence of operation:

1. The room thermostat calls for heat.
2. The vent blower is energized.
3. If the safety circuitry is in the normal position power is supplied to the ignition module.
4. The HSI lights the burners.
5. The flame sensor detects the presence of a flame and the main burners are allowed to remain lighted.
6. The circulating air blower is started at a predetermined time (approximately 30 seconds).

After the room thermostat is satisfied the furnace will shut down in the following manner:

1. Burners extinguish.
2. Vent blower is de-energized.
3. The circulating air blower will shut down after about 2-1/2 minutes.

AIR FILTERS

Prior to inspecting the air filters, turn off the electric supply to the appliance. At the completion of this task, remember to restore power. Instructions for replacing filters can be found in the Installation & Operating manual.

CAUTION: DO NOT OPERATE YOUR FURNACE WITHOUT FILTERS IN PLACE

Inspect your filters MONTHLY. A new home will require more frequent attention until the construction dust is removed.

Failure to follow this guideline can result in permanent damage to the circulating air blower and adversely effect the furnace performance.

Filters are an important and simple maintenance procedure which can prevent an expensive service call. The following table shows the minimum filter size you can use:

| MINIMUM FILTER SIZES | | |
|----------------------|-------------|-----------|
| UPFLOW | | |
| Furnace Width | Filter Size | Type |
| 14" | 14 x 25 x 1 | Permanent |
| 17-1/2" | 16 x 25 x 1 | Permanent |
| 21" | 20 x 25 x 1 | Permanent |
| 24-1/2" | 24 x 25 x 1 | Permanent |

GENERAL FURNACE INSPECTION

The preceding sections cover specific areas of maintenance; however, on a regular basis the following should be inspected:

1. The return air connection(s) must be sealed to the furnace and terminate outside the furnace room.
2. The return air plenum(s) must be free of holes or other openings and show no signs of distortion.
3. The seal between the furnace and the base or flooring to which the furnace is mounted should show no signs of deterioration, sags, cracks or gaps and must provide a definite seal between the base or flooring and the furnace.
4. The furnace casing and components should be sound.

MOTOR LUBRICATION AND CLEANING

The circulating air blower motor and vent motor are pre-lubricated by the motor manufacturer with no provisions for oiling.

WARNING

The electric power **MUST** be turned off before doing any type of service to this furnace.

IGNITION SYSTEM AND MONTHLY INSPECTION

Only a qualified serviceman may perform maintenance on certain components located on the furnace. Some of these are listed below:

1. INTEGRATED CONTROL (not field serviceable).
2. GAS VALVE (field adjustable).
3. BURNER ASSEMBLY.

During the heating season, the flame pattern should be visually inspected on a monthly basis. You can perform this inspection quite easily. After the furnace has been in operation for

fifteen (15) minutes observe the flames. There should be no lifting, floating, or noise. The burner flames should contain two (2) blue cones. If there is dirt or dust in the air the flames may be orange. This orange color should disappear in a short period of time.

DO NOT ATTEMPT TO PERFORM ANY MAINTENANCE ON THE IGNITION SYSTEM. Call a qualified service technician if you suspect an abnormal flame pattern.

VENT AND COMBUSTION AIR INSPECTION

This furnace employs a power venter to discharge the flue products to the outdoors and a vent pressure switch. This pressure switch will not allow the furnace to operate should a restriction in the vent system occur. In the event that this situation does occur, contact a qualified service technician to inspect the vent system. You should inspect the vent/combustion air system regularly, paying particular attention to the following:

1. The vent and vent connector are securely attached to the furnace and show no signs of deterioration or sagging.
2. There are no obvious leaks around the fittings or joints.
3. Any horizontal run is being adequately supported (about every 3 feet) with a vertical slope of 1/4" per foot towards the furnace.

When performing the Vent System Inspection it is prudent to ensure that all combustion air inlets to both the furnace and mechanical room are free of obstructions.

ROOM THERMOSTAT

The room thermostat, which is provided by your installer, is designed to keep your house at the temperature you desire. The thermostat communicates with your furnace in the heating and if so equipped, cooling mode. For improved performance do not constantly reset this control. To improve the thermostat's reliability avoid the placing of a lamp, TV, or any other heat generating device close to the thermostat.

DRAIN SYSTEM (Condensing Furnaces Only)

Inspect the drain system during the normal monthly filter change. Should a blockage occur, contact a qualified service technician to inspect the cause of the blockage.

IMPORTANT DO'S AND DON'TS

DO - Read this manual

DO - Have your furnace inspected **ANNUALLY** by a qualified service technician

DO - Inspect your air filters monthly

DON'T - Tamper with any safety controls

DON'T - Store any combustibles or flammables in the furnace area

DON'T - Use as a broom closet

DON'T - Block any ventilation openings or ducts

DON'T - Set a lamp or other heat generating device close to the room thermostat

DON'T - Block or restrict any return air grilles

DON'T - Store laundry detergent or other cleaning agents or fabric softeners in the immediate vicinity of the furnace. These items contain compounds which may cause premature component failure

IF FURNACE WILL NOT OPERATE

If your furnace will not operate, check the following prior to contacting a qualified service technician:

1. **IS** the circuit breaker or fuse OK.? Power supply switch on?
2. **IS** the room thermostat in the correct mode (heat or cool). Set above room temperature for heat and below room temperature for cooling.
3. **IS** the gas supply turned on?
4. **IS** the gas valve control knob turned to "ON"?
5. **IS** the blower door properly secured?

WARNING:

SHOULD OVERHEATING OCCUR OR THE GAS SUPPLY FAIL TO SHUT OFF, SHUT OFF THE MANUAL GAS VALVE TO THE FURNACE BEFORE SHUTTING OFF THE ELECTRICAL SUPPLY.

DO NOT USE THIS FURNACE IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL WHICH HAS BEEN UNDER WATER.

PLEASE FOLLOW THESE INSTRUCTIONS SINCE IMPROPER INSTALLATION AND/OR FAILURE TO PERFORM ANNUAL INSPECTIONS INCREASES THE RISK OF CARBON MONOXIDE (CO) POISONING, WHICH CAN RESULT IN SERIOUS INJURY OR DEATH.