THE WALL MOUNT™ HI-BOY COMBINATION GAS/ELECTRIC USER'S INFORMATION MANUAL

WARNING: 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.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - **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.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

BARD MANUFACTURING COMPANY
Bryan, Ohio 43506

Since 1914...Moving, ahead just as planned.

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General

The warnings shown on the cover of this manual and the information on the following pages are very important and should be fully read and understood by the operator of this equipment. Please take the few minutes necessary to completely read this booklet, and if there are any questions when you are through, ask your installer to review them with you. Please retain this booklet for future reference.

Rating Plate Information

Record the manufacturer's name, unit model number and serial number below. These are on your unit rating plate. Record installation date, which is important for warranty purposes.

Also fill in the installer's name, address and telephone number. This will be handy if you have questions later. Some companies install an identification tag on units they install or service. If not, ask for the information.

Your Unit Information

Unit Type _____

Manufacturer's Name _____

Model Number _____

Serial Number _____

Date Installed _____

Installer/Service _____

Address _____

City/State/Zip Code _____

Telephone Number _____

IMPORTANT SAFETY PRECAUTIONS

A. Signal Words

Years of safe, dependable service, are assured when you understand and follow all safety precautions.

Remember: Your unit contains flames, gas, electricity, rotating parts and metal edges.

Signal words "***Warning***" and "***Caution***" alert you to potential hazards.

"***Warning***" alerts you to situations that could cause series injury or property damage.

"***Caution***" alerts you to situations that could cause minor or moderate injury.

B. Safety Precautions

These are some of our most important safety precautions; others are throughout this manual. Please read and follow them.

1. Gas and Combustion Products

Warning

Any condition that will allow gas or combustion products to enter unit area can cause nausea, asphyxiation or fire resulting in damage, injury or death.

Natural gas and propane (LP) gas have characteristic odors. When your unit is operating correctly, you should not smell any unfamiliar odor. Normally, burning gas with air produces combustion products which contain carbon dioxide, oxygen and water vapor.

Aldehydes have a strong pungent, acrid smell that can cause nausea.

Carbon monoxide is tasteless, colorless and odorless. It can cause headaches, flu-like symptoms or nausea. We refer to all these symptoms as nausea in this manual. It can also cause death by asphyxiation.

Warning

Any unfamiliar smell can alert you to presence of gas or aldehydes. If you detect any unfamiliar odor call service technician.

Warning

Do not block or cover combustion openings in the unit door. Blocking or covering these openings could cause nausea, asphyxiation or fire resulting in damage, injury or death.

Warning

A loud noise may mean faulty burner ignition. If your unit makes a loud noise, turn it off. If you don't turn your unit off, it could cause fire or an explosion, resulting in damage, injury or death.

2. Storage and Use of Flammable, Corrosive and Combustible Products Near Your Unit.

Warning

Never store or use flammable liquids or vapors near or on your unit. These include gasoline, kerosene, cigarette lighter fluid, cleaning fluids, solvents, paint thinners or painting compounds. Flammable vapors can travel great distances before igniting. Flammables could cause fires or explosions and result in damage, injury or death.

Warning

Never store or use anything near or on your unit that can produce vapors that are corrosive to gas-fired appliances. Vapors from products containing chlorines, fluorines, bromines and iodines can cause vent system or heat exchanger failure. Examples of such products are spray or aerosol containers, detergents, bleaches, cat litter, waxes, adhesives, solvents and other cleaning compounds. Vent system or heat exchanger failure could cause nausea, asphyxiation or fire, resulting in damage.

CLEARANCES

There are certain minimum installation clearances from the unit cabinet and sheet metal plenum attached to the unit to any combustible materials. These clearances for each model are shown on the unit rating plate (located on the right side) and are the responsibility of the installer during the installation of the appliance.

It is the user's responsibility to make sure these clearances are always maintained thereafter. Additionally, a minimum of 30 inches for serviceability is required from the right side of all models.

COMBUSTION AND VENTILATING AIR

It is the responsibility of the user to assure that the important flow of combustion and ventilating air is not obstructed from reaching the unit.

Do not block or obstruct air openings on the unit.

LIGHTING AND SHUTDOWN INSTRUCTIONS

Refer to Figure 3 for general location of components referenced in the following "Lighting and Shutdown Instructions." These components are located behind the "Burner Access Door".

Important

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the unit before shutting off the electrical supply.

FIGURE 1

FIGURE 2

FIGURE 3

AIR FILTERS

It is the user's responsibility to check the condition of the air filters on at least a monthly basis when the unit is in use and to clean or replace whenever it is necessary.

Permanent Type Filter (usually foam type) are washable. Use a solution of soapy water, followed by a rinse in clear water and then dried by tapping the frame against a solid object.

Never operate the unit without proper filters in place.

Never substitute a throwaway (fiberglass) for a permanent (foam) type.

Return air filter size is 20 x 30 x 1 (throwaway) and is serviceable from the left side of the unit as shown in Figure 2.

Fresh air filter size is 4 x 26 x 1/2 and is a permanent type filter, refer to Figure 2 for service location.

AIR CONDITIONING START UP PROCEDURE CRANKCASE HEATERS

Single and three phase models have an insertion well-type heater located in the lower section of the compressor housing. This is a self-regulating type heater that draws only enough power to maintain the compressor at a safe temperature.

Some form of crankcase heat is essential to prevent liquid refrigerant from migrating to the compressor, causing oil pump out on compressor start-up and possible valve failure due to compressing a liquid. The decal in Figure 4 is affixed to all outdoor units detailing start-up procedures. This is very important. Please read carefully.

FIGURE 4

IMPORTANT

THESE PROCEDURES MUST BE FOLLOWED AT INITIAL START-UP AND AT ANY TIME POWER HAS BEEN REMOVED FOR 12 HOURS OR LONGER.

TO PREVENT COMPRESSOR DAMAGE WHICH MAY RESULT FROM THE PRESENCE OF LIQUID REFRIGERANT IN THE COMPRESSOR CRANKCASE.

1. MAKE CERTAIN THE ROOM THERMOSTAT IS IN THE "OFF" POSITION (THE COMPRESSOR IS NOT TO OPERATE).
2. APPLY POWER BY CLOSING THE SYSTEM DISCONNECT SWITCH. THIS ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE.
3. ALLOW 4 HOURS OR 60 MINUTES PER POUND OF REFRIGERANT IN THE SYSTEM AS NOTED ON THE UNIT RATING PLATE, WHICHEVER IS GREATER.
4. AFTER PROPERLY ELAPSED TIME, THE THERMOSTAT MAY BE SET TO OPERATE THE COMPRSSOR.
5. EXCEPT AS REQUIRED FOR SAFETY WHILE SERVICING--DO NOT OPEN SYSTEM DISCONNECT SWITCH.

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CIRCULATION BLOWER CONTROL

INITIAL START UP

When electrical power is first supplied to the unit, the low speed blower relay will automatically energize and the indoor motor will run for one minute. This run in period will only occur during initial power up or when the power supply is interrupted.

HEATING OPERATION

One minute after main burner ignition, the circulating blower will start on low speed. Following termination of the heating cycle, a two minute delay will keep the circulating blower running. Any major deviations from these times should be reported to your service agency.

COOLING OPERATION

Immediately upon a call for cooling, the circulating blower will be energized on high speed. At the end of the cooling cycle, the compressor will stop and the circulating blower will continue to run for one minute.

MAINTENANCE INSTRUCTIONS

The unit should be inspected annually by a qualified service agency.

Routine inspection and maintenance procedures are the responsibility of the owner/user and are outlined below.

ROUTINE MAINTENANCE

Air Filters—Check the condition at least monthly when the unit is in use, and replace (throwaway, fiberglass type) or clean (permanent, foam type) as necessary. Reference Figure 2.

Lubrication Requirements—The indoor circulating air blower motor and outdoor circulating air fan motor are permanently lubricated and require no re-oiling. The combustion air blower motor should be re-oiled once a year with 3-4 drops SAE20 motor oil.

Warning—Turn off electrical power supply to prevent injury from moving parts or electric shock.

ROUTINE INSPECTION

Inspect the physical support of the unit annually to make sure it is securely fastened to the building. Also look for any obvious signs of deterioration.

Inspect the pilot and main burner adjustment at the beginning of each heating season. Refer to Figure 5 and Figure 6 for general guidelines. Call qualified service agency for any adjustments.

Inspect the vent terminal for any obvious deterioration and to make sure it is free and clear of any obstructions.

REPLACEMENT PARTS

Replacement parts for the gas/electric units are available through local distributors.

A replacement parts list manual is supplied with each unit. When ordering parts or making inquiries pertaining to any of the units covered by these instructions, it is very important to always supply the complete model number and serial number of the unit. This is necessary to assure that the correct parts (or an approved alternte part) are issued to the service agency.

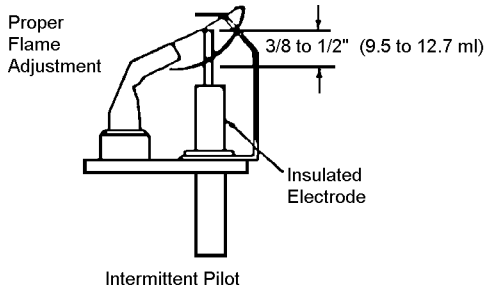

FIGURE 5

FIGURE 6

Observe the main burners in operation. The flame should be mostly “blue” with possibly a little orange (not yellow) at the tips of the flames. The flames should be in the center of the heat exchanger compartments and not impinging on the heat exchanger surfaces themselves.

Observe the fire until the blower starts (there is a normal delay period until the heat exchanger warms up). There should be no change in the size or shape of the flame. If there is any wavering or blowing of the flame on blower start-up, it is an indicattion of a possible leak in the heat exchanger.

FRESH AIR DAMPER ASSEMBLY

The fresh air damper assembly is shipped in the return air chamber accessed from the back of the unit. Remove the shipping screws and damper assembly. Attach the damper assembly to the blower service door as shown in Figure 2. The damper assembly includes a permanent filter that can be easily removed for cleaning. See Figure 3.

The damper blade is shipped in the full open position allowing the maximum amount of fresh air at all times. If no fresh air is desired or if barometric operation (blade opens when blower starts) is desired, remove and reinsert the plastic canoe clips as shown in Figure 7.

All capacity, efficiency and cost of operation information as required for Department of Energy “Energyguide” Fact Sheets is based upon the fresh air blank-off plate (BOP-1A) in place and is recommended for maximum energy efficiency. The blank-off plate is available upon request from the factory and is installed in place of the fresh air damper shipped with each unit.

FIGURE 7

FILTER

A one inch throw away filter is supplied with each unit taped to the back of the unit. This filter is installed by removing the filter service door located on the left side and sliding the filter into position, as shown in Figure 3.