

USERS INFORMATION MANUAL

FOR

GA & GH/GS UNITS



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Important

FOR OUTDOOR INSTALLATION ONLY

FOR YOUR SAFETY

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

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

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.

DON'T PLACE COMBUSTIBLE MATERIAL ON OR AGAINST THE FURNACE OR FLUE PIPE.

DON'T PLACE OBJECTS NEAR THE BURNER COVERS ON EITHER SIDE OF THE FURNACE.

DON'T OBSTRUCT COMBUSTION AIR FROM REACHING THE FURNACE.

DON'T STORE PAINT, GASOLINE, THINNER, SOLVENTS OR OTHER FLAMMABLE LIQUIDS IN THE FURNACE AREA.

WARNING: Turn off all gas and electrical power to the furnace before performing any maintenance or service on unit. Failure to take this precaution may result in loss of life, personal injury, or property damage due to electrical shock or uncontrolled gas leakage.

OPERATING INSTRUCTIONS

SEQUENCE OF OPERATION

The unit is controlled by a conventional four wire heating / cooling thermostat common to this class of equipment.

HEATING

On a call for heat, the room thermostat provides 24 volt output to the "W" circuit. This energizes vent fan relay which starts the venter motor. When the venter motor is up to speed a centrifugal switch is energized by the venter motor rotation which completes the circuit to the ignition control. The ignition control energizes the gas valves and the spark is started. When the flame has been sensed, the spark is deenergized. The fan is energized approximately the same time the flame is lit to produce warm air into the home.

In the case of an overtemperature condition, a conventional bimetal type limit control located in the airstream breaks the circuit to the ignition control, thereby closing the gas valves.

If flame is not established in four or seven seconds, depending on which control is supplied, the ignition control will close the gas valves. Two more trials for ignition will be made with one minute of purging occurring between each try. If after three trials, ignition has not occurred, the ignition control will lock out, requiring the power to the control to be interrupted and then restored which resets the control. This can be done at the room thermostat or the power disconnect to the unit.

If flame is lost after it has been sensed, the ignition control will recycle for a total of five attempts in a manner similar to the above retries before locking out.

After the furnace shuts off, the circulating fan will continue to run for about 1-1/2 minutes to retrieve some of the heat in the system and not allow that to go to waste.

COOLING (GA Units Only)

On a call for cooling, the room thermostat provides 24 volt output to the "Y" and "G" circuits. The "Y" circuit energizes the contactor thereby starting the compressor and condenser fan motors. The "G" circuit energizes the indoor blower relay which in turn runs the inside blower motor.

The compressor is protected by an anti-short cycle timer which prevents it from trying to restart under high pressure within three minutes after shutdown.

INDOOR BLOWER

The manual fan switch on the room thermostat energizes the "G" circuit thereby energizing the indoor blower relay. This will cause the indoor blower to operate continuously.

The indoor blower relay also has a time delay which keeps the blower running about 1-1/2 minutes after the compressor cycles off when switched to the "Auto" mode.

- DON'T waste money heating and cooling when you don't need to.

When you're going to be away from home for a few days—or when outdoor temperatures are moderate—don't let the furnace run unnecessarily. Lower the thermostat setting to 55°F in the winter. To prevent freeze-up of water pipes, water receptacles and to prevent damage to indoor plants, do not lower the thermostat setting below 55°F during the heating months. Then when you return—or when temperature conditions dictate—you can reset the system and it will immediately begin making your home comfortable again.

CHECKLIST BEFORE CALLING FOR SERVICE

If your furnace fails to operate properly, first check the following. It may save you the cost of a service call:

1. Is your room thermostat set correctly? On heating/cooling systems, the thermostat system switch should be turned to "HEAT", the fan switch to "AUTO" or "CONT" (continuous fan operation).
2. Are the power and gas both on? Check fuses/breakers and manual gas valve.
3. Are the filters clean?

If the answer to these questions is "YES" and the furnace still doesn't operate properly, call your authorized dealer for qualified maintenance and service.

WARNING: Combustion air openings in furnace sides, and all air openings which communicate with the furnace area must be kept free of obstructions. Any obstruction will cause improper burner operation and may result in a fire hazard or asphyxiation.

SHUT DOWN INSTRUCTIONS

WARNING: If the unit overheats, or the gas supply fails to shut off, turn off the manual shut-off valve to the appliance before turning off the electrical supply at the electrical disconnect. Have your utility representative or qualified technician show you where the manual shut-off valve(s) and electrical disconnect are located and how they operate.

WARNING: The unit cabinet must have an uninterrupted or unbroken electrical ground to minimize personal injury if an electrical fault should occur. This may consist of electrical wire or approved conduit when installed in accordance with existing electrical codes.

WARNING: 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.

**FOR YOUR SAFETY — READ BEFORE
ATTEMPTING TO LIGHT FURNACE**

DANGER: IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT, CAUSING LOSS OF LIFE, PERSONAL INJURY, OR PROPERTY DAMAGE.

- A. Do NOT attempt to light this ignition system with a match, lighter, etc. due to the possibility of an electrical shock hazard from the automatic ignition system.
- B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- C. 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, don't try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

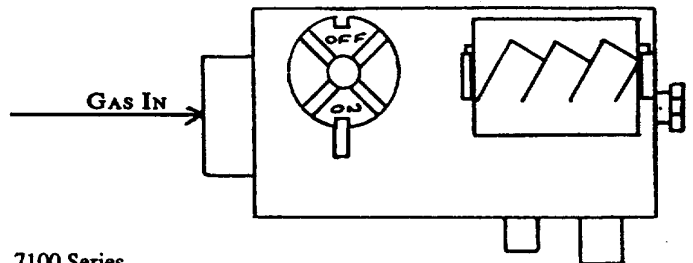
LIGHTING INSTRUCTIONS

For furnaces equipped with an intermittent pilot system for use with natural gas.

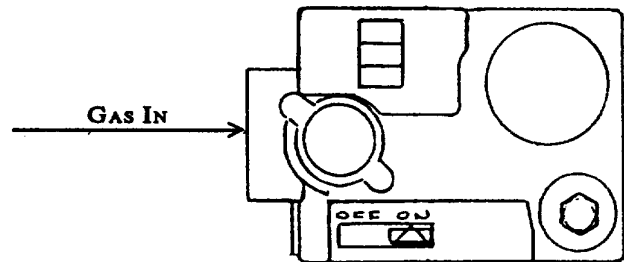
- 1. STOP! Read the safety information above.
- 2. Set thermostat to lowest setting.
- 3. Turn off all electric power to the appliance.
- 4. This appliance is equipped with an ignition device which automatically lights the pilot. Do NOT try to light the pilot by hand.
- 5. Shut off the gas valve.
For valves with knob handles, turn knob clockwise from "ON" to "OFF". For valves with lever handles, push lever in and slide it from "ON" to "OFF" position. (See Figure 1)
- 6. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Smell around the appliance area for gas. Be sure to smell near the floor since some gas is heavier than air and will settle next to the floor. If you don't smell gas, go to the next step in these instructions.
- 7. Turn gas control knob counterclockwise to "ON".
- 8. Turn on all electric power to the appliance.
- 9. Set thermostat to ~~desired~~ setting.
- 10. If the appliance will not operate, follow the instructions "To Turn Off Appliance" and call your service technician or gas company.

TO TURN OFF APPLIANCE

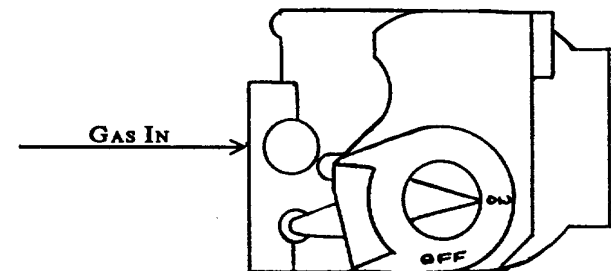
- 1. Set the thermostat to lowest setting.
- 2. Turn off all electric power to the appliance if any service is to be performed.
- 3. Turn gas control knob counterclockwise to "OFF".



7100 Series
Robertshaw



VR8204A
Honeywell



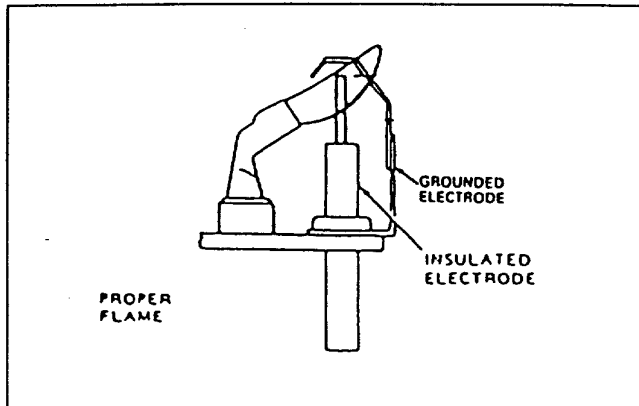
7200 Series
Robertshaw

FIGURE 1

(Gas control knobs shown in the "ON" position)

PILOT ADJUSTMENT

The pilot flame should cover the electrode as in the illustration below. If the pilot flame on your furnace does not cover the electrode properly, contact a qualified service person who can adjust the pilot flame in accordance with the instructions in the installer's guide provided with the furnace.



AIR FILTERS (Not Included With Furnace)

Since the unit is installed outdoors, filters are normally installed external to the unit cabinet and at a point in the ductwork readily accessible to the home owner.

The following is a chart showing recommended filter sizes to be used for each model unit.

Model No.	High Velocity Cleanable Filter	Low Velocity Disposable Filter
241 - 50	1 - 14 x 20	1 - 20 x 20
241 - 75	1 - 16 x 20	1 - 20 x 20
301 - 50	1 - 16 x 20	1 - 20 x 20
301 - 75	1 - 16 x 20	1 - 20 x 20
361 - 75	1 - 20 x 20	1 - 20 x 20
361 - 100	1 - 20 x 20	2 - 16 x 20
421 - 75	1 - 20 x 25	2 - 16 x 20
421 - 100	1 - 20 x 25	2 - 16 x 20
481 - 75	2 - 16 x 20	2 - 20 x 20
481 - 100	2 - 16 x 20	2 - 20 x 20
601 - 75	2 - 16 x 20	2 - 20 x 25
601 - 100	2 - 16 x 20	2 - 20 x 25

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CAUTION: *Never operate the unit without a suitable air filter in the return-air duct system. Always replace the filter with the same dimensional size and type as recommended on the preceding table.*

Inspect air filter(s) at least once each month and replace (disposable-type) or clean (cleanable-type) at least twice during each heating and cooling season or whenever the filter(s) becomes clogged with dust and lint.

BURNER — Periodically — at least annually at the beginning of each heating season — make a visual check of the main burner flame through a sight glass located at the right side of the unit. The flame should be predominantly blue. If too much yellow begins to show, the burners may need cleaning.

Steps for removing and cleaning the burners are outlined in the "Installation Instruction" manual.

WARNING: These instructions are primarily intended for the use of qualified individuals specifically trained and experienced in servicing gas furnaces and related comfort conditioning components. Service personnel are required by some states to be licensed. Persons not qualified should not attempt to service this equipment nor interpret these instructions. Improper servicing will void the warranty and may create a hazard which could result in loss of life, personal injury, or property damage.

OILING INSTRUCTIONS

All direct drive blower motors are permanently lubricated and do not require further lubrication. Oil the Induced Draft Motor every six (6) months with Anderol L465 or equivalent.

GENERAL CHECK LIST

Prior to each heating season, check that the —

1. Vent opening for flue gas is not obstructed.
2. Seals around the ducts are in good condition.
3. Physical support of the unit is in good condition.
4. Furnace shows no obvious signs of deterioration.

It is also advisable to have the complete system checked annually by a qualified service agency.

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