



heatilator
The first name in fireplaces

Heatilator Inc.
1915 W. Saunders Street
Mt. Pleasant, IA 52641
a HON INDUSTRIES company



G420E G420LE GC420E GC420LE

INSTALLATION & OPERATING INSTRUCTIONS

I. LISTINGS AND CODE APPROVALS

These vented decorative gas appliances with electronic direct spark ignition have been tested in accordance with National Safety Standards, and have been LISTED by Underwriters Laboratories Inc. and the Canadian Gas Association for installation and operation as described in these Installation & Operating Instructions.

Check with your local building code agency before you begin installation to ensure compliance with local codes, including the need for "permits" and follow-up inspections. If any problems are encountered regarding code approvals, or if you wish clarification of any of the instructions contained here, contact your local distributor/dealer, or Customer Relations Department, Heatilator Inc., 1915 W. Saunders Street, Mt. Pleasant, Iowa 52641. HEATILATOR® is a registered trademark of Heatilator Inc., a HON INDUSTRIES company.

FOR YOUR SAFETY

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.**

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.

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.

G420E, G420LE, GC420E & GC420LE GAS APPLIANCES

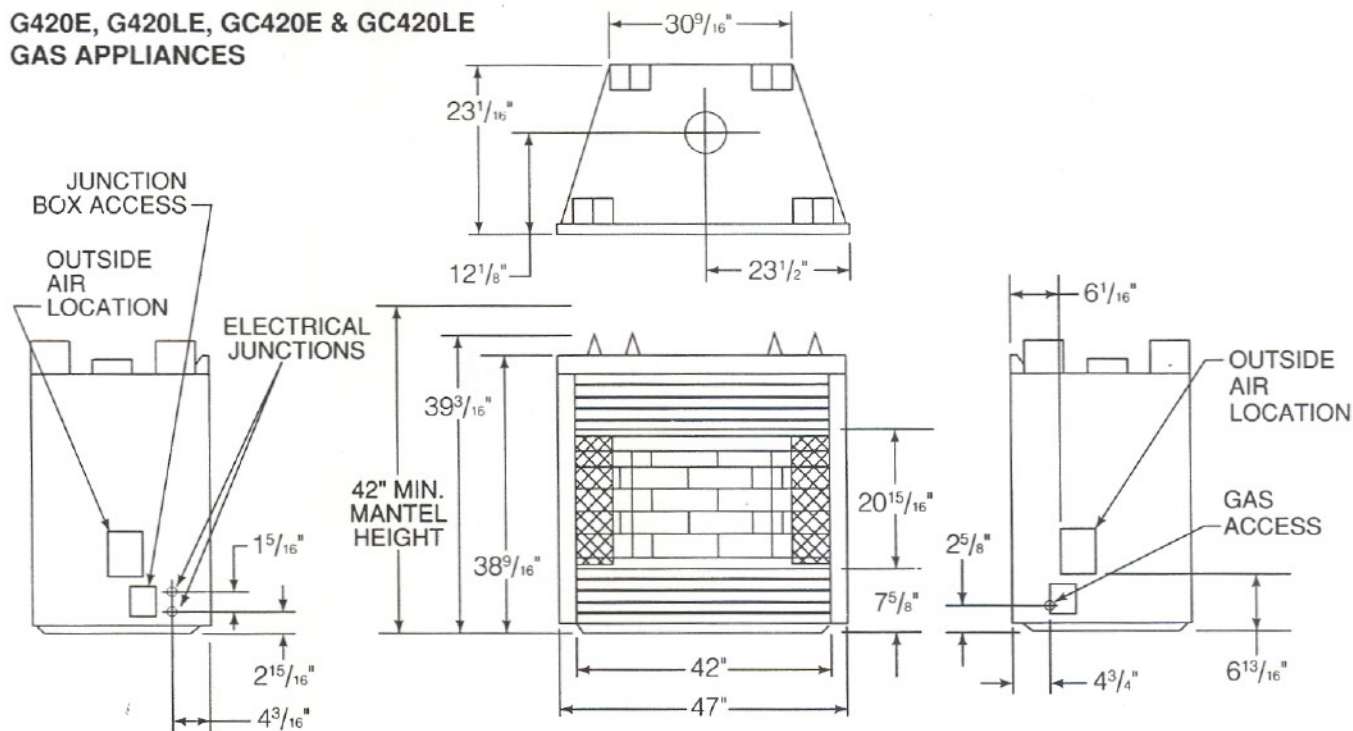


Figure 1

The table below shows only those components which may be safely used with these decorative gas appliances.

Catalog Number	Description
G420E	5" Up Vent Natural Gas Decorative Appliance (Non-Circulator)
GC420E	5" Up Vent Natural Gas Decorative Appliance (Circulator)
G420LE	5" Up Vent Propane Gas Decorative Appliance (Non-Circulator)
GC420LE	5" Up Vent Propane Gas Decorative Appliance (Circulator)
GD42A & B	Glass Doors - Antique & Polished Brass
C1142A, B & C	Classic Bifold Glass Doors - Brushed Brass, Polished Brass & Chrome Finish
C2142A, B & C	Classic Cabinet Glass Doors - Brushed Brass, Polished Brass & Chrome Finish
D1142B	Designer Bifold Glass Doors - Polished Brass Finish
D2142B	Designer Cabinet Glass Doors - Polished Brass Finish
TK7A & B	Trim Kit - Antique & Polished Brass
TK7CA, B & C	Classic Trim Kit - Brushed Brass, Polished Brass & Chrome Finish
FK7	Fan Kit - Single Fan (Optional on GC420E & GC420LE Only)
FK13	Fan Kit - Two Fans & Wiring Harness (Optional on GC420E & GC420LE Only)
BC10	Motor Speed Control
RC5	Remote Control Kit
AK14	Air Kit - Outside Air
ID4	Insulated Duct/Outside Air
UD4	Uninsulated Duct/Outside Air

II. GENERAL INFORMATION

This installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-latest edition or, in Canada, current CAN/CGA-B149.1 and B149.2 installation codes.

INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE APPLIANCE SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A QUALIFIED SERVICE PERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM CARPETING, BEDDING MATERIAL, ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATING AIR PASSAGEWAYS OF THE APPLIANCE BE KEPT CLEAN.

Provide adequate clearances around the air openings into the combustion chamber and adequate accessibility clearances for servicing and proper operation.

Minimum clearances to combustibles are: Top of unit 0", Floor 0", Back 1/2", Sides 1/2", Ceiling 30".

The appliance must be installed on a flat, solid, continuous surface (i.e. wood, metal, concrete).

Provide for adequate combustion and ventilation air.

For Natural Gas, the minimum inlet gas supply pressure is 4.0 inches water column, the maximum inlet gas pressure is 11.0 inches water column and the manifold pressure is 3.5 inches water column, for the purpose of input adjustment. For Propane Gas, the water column pressure must be at 11.0 inches minimum to 14.0 inches maximum and the manifold pressure is 11.0 inches water column. Input rate is 28,000 BTU/HR.

A 1/8" NPT plugged tapping is provided on the gas control valve, near the outlet to the Main Burner immediately upstream of the gas supply connection to the appliance, accessible for a test gage connection.

For high elevation, refer to ANSI Z223.1-latest edition, Appendix F, for resizing orifice. A derated orifice is supplied with your appliance.

DUE TO HIGH TEMPERATURES, THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

WARNING

THIS APPLIANCE MUST NOT BE CONNECTED TO A CHIMNEY FLUE SERVICING A SEPARATE SOLID FUEL BURNING APPLIANCE.

III. GAS APPLIANCE LOCATIONS, SPACE AND CONSTRUCTION REQUIREMENTS

The G420E(LE) or GC420E(LE) gas appliances can be installed in a wide variety of ways and will fit nearly any room layout. It may be installed in a recessed position, framed out into the room, or across a corner. The appliance may be installed at a height level with the floor, or it can be raised up from the floor to enhance its visual impact. Figure 2 illustrates a variety of ways the appliance may be located in a room.

Proper clearances to combustible sidewalls, as illustrated in Figure 2, must be maintained.

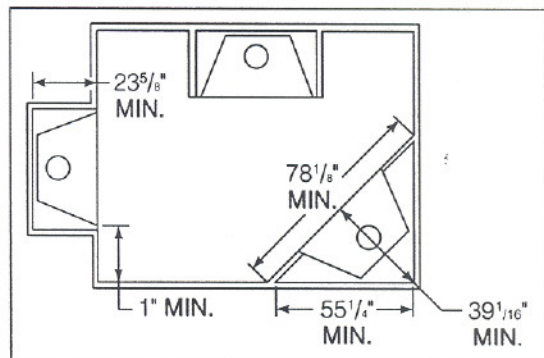


Figure 2

IV. STEP-BY-STEP INSTALLATION

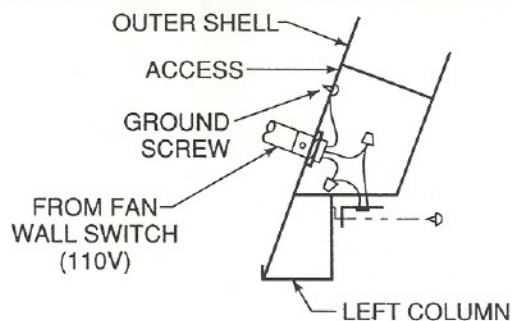
☐ **STEP 1**

The appliance will fit a framed opening of 48 1/8" wide x 39 1/4" tall. The cavity depth must be no less than 23 5/8".

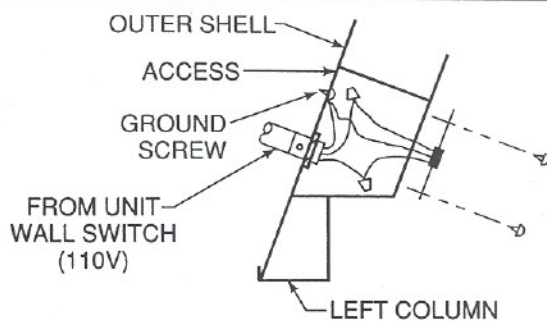
☐ **STEP 2**

Install the gas line piping up to the right side of the appliance. For a gas line connection of 25' long, it is recommended to use 1/2" pipe, then reduce to 3/8" pipe at the unit. A 3/8" gas line should be positioned 2 5/8" above the floor and 4 3/4" from the front of the appliance. A separate manual on/off gas valve, supplied with the appliance, should always be utilized.

NOTE: During any pressure testing of the gas supply piping system that exceeds test pressures of 1/2 psig, this appliance and its individual shut-off valve must be disconnected from the piping system. If test pressures equal to or less than 1/2 psig are used in pressure testing the gas supply piping system, this appliance must be isolated from the piping system by closing its individual manual shut-off valve during the testing.



WIRING DIAGRAM FOR FK13 (GC420E & GC420LE ONLY)



WIRING DIAGRAM FOR RC5

Figure 3

STEP 3

If an optional FK13 Fan Kit or RC5 Remote Control Kit are to be used, wiring should be done at this time. Wiring diagrams are shown in Figure 3 and are also provided with these accessories. Supply electrical wiring (110V) to the left side of the appliance. Connect the wall switch in line to operate the appliance. The appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with National Electric Code ANSI/NFPA 70-latest edition or, in Canada, the current CSA C22.1 Canadian Electrical Code. The appliance wiring diagram is shown in Figure 5.

STEP 4

Slide the appliance into position.

STEP 5

Secure the appliance to the wall using a minimum of (2) fasteners per side.

STEP 6

Connect 5" listed type B-1 Vent to the vent collar of the appliance. Follow all B-1 Vent listings and requirements. Means for visual inspection of the flue connection, with the appliance installed as it would be in service, shall be provided.

STEP 7

Run the 3/8" pipe approximately 3" into the appliance. Connect the gas line to the appliance, using 3/8" 45° flare fitting. Check for gas leaks with a soap and water solution. See Figure 4 for the location of gas valve.

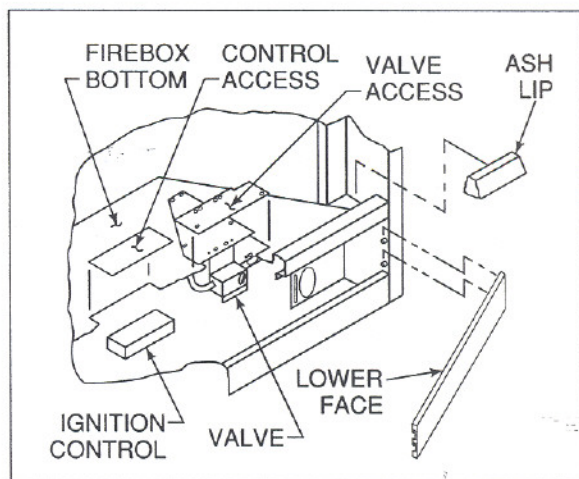


Figure 4

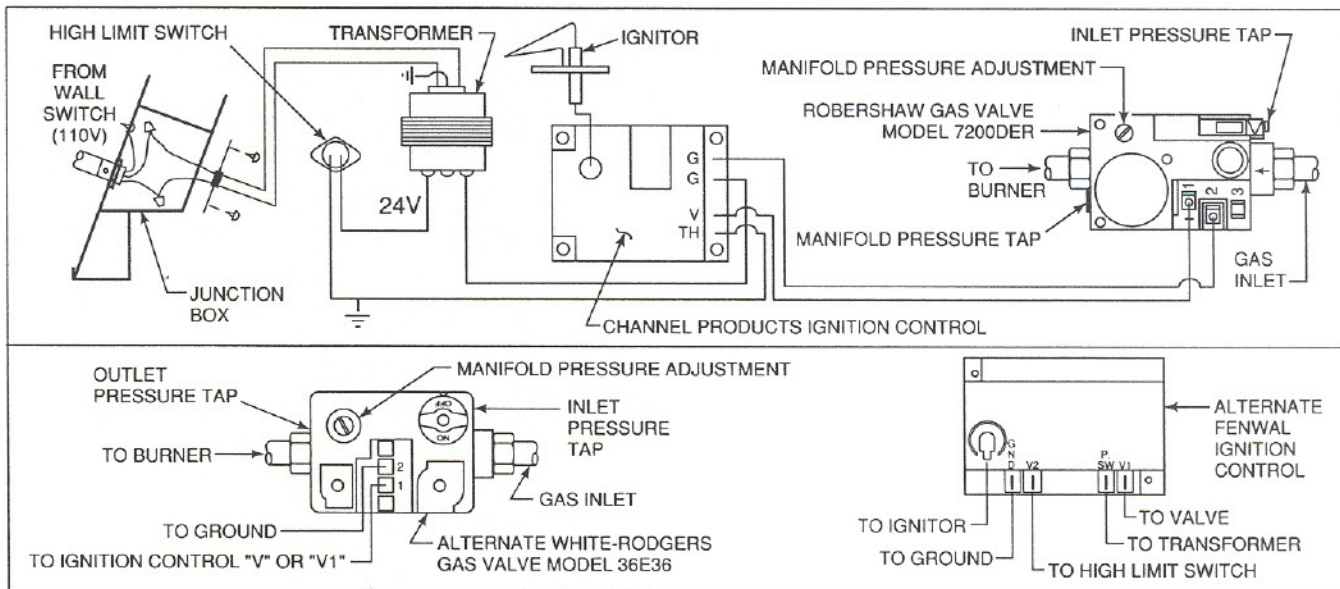


Figure 5

☐ STEP 8

If optional outside air is used, install before finishing. Minimum length of Air Duct ID4 is 12 inches, with a maximum 8' vertical height. Follow the Instructions shipped with the Outside Air Kit for installation.

☐ STEP 9

Finishing the Appliance. When finishing the face of the appliance, combustible material may be brought up to the sides of the appliance, but must never overlap onto the black metal. The black metal may be covered with non-combustible material only. **NOTE: You cannot cover any of the air slots in the appliance, as this may create a fire hazard.** If a mantel is to be used, a minimum of 42" from the base of the appliance must be maintained.

☐ STEP 10

Pour Lava Rock on the firebox bottom and spread evenly to cover it. Avoid getting any rock in the burner. If you do, clean the burner with a vacuum.

☐ STEP 11

Position logs as shown in the Replacement Parts section. The front and rear logs must be positioned against the inside of the burner supports to provide a 2 1/2" spacing between them.

V. OPERATING INSTRUCTIONS

A. Before operating this appliance, proceed through the following check list:

1. Verify log placement. The logs are shipped in a separate box. Position as shown in the diagram under Replacement Parts.
2. Check to see that all wiring is correct and enclosed to prevent possible shock.
3. Check to ensure there are no gas leaks.
4. Verify all venting and cap is unobstructed.
5. Read and understand these instructions before operating this appliance.

B. LIGHTING PROCEDURE

Steps 1 - 4 are to be followed for initial start-up and seasonal start-up. Step 5 is sufficient for later starts in-season.

1. Turn the remote wall switch to the "Off" position.
- 2a. Push gas control lever in and slide lever to the "Off" position (Robertshaw).
- b. Rotate gas control knob to the "Off" position (White-Rodgers).
3. Wait five minutes to allow gas, that may have accumulated in the main burner compartment, to escape.
4. Move gas control to the "On" position.
5. Turn the remote wall switch to the "On" position. This will turn on the main burner.

C. SHUTDOWN PROCEDURE

1. To shut off the main burner, move the remote wall switch to the "Off" position.
2. To shut off the entire system:
 - a. Push gas control lever in and slide lever to the "Off" position (Robertshaw).
 - b. Rotate gas control knob to the "Off" position (White-Rodgers).

VI. MAINTENANCE INSTRUCTIONS

- A. Keep the burner and control compartment clean by brushing at least once a year. Always turn off the gas before cleaning.
- B. Periodically visually check the flame of the pilot and burner, making sure the flames are steady; not lifting or floating. The flame color should be blue with yellow tips. The ignitor tips should be covered with flame. See Figure 6.

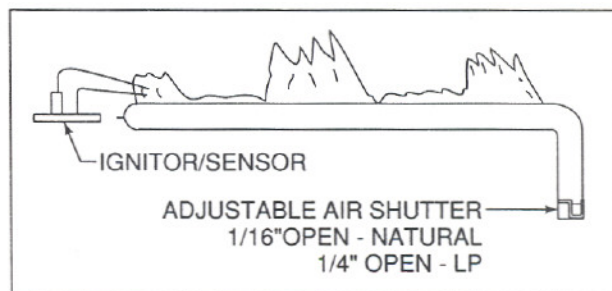


Figure 6

- C. The appliance and venting system should be inspected before use, or at least annually, by a qualified field service person, to ensure that the flow of combustion and ventilated air is not obstructed.

- D. Keep the area near the appliance clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- E. **When first operated, the appliance will release an odor for about an hour. This is caused by the curing of the paint and the burning off of any oils remaining from manufacturing.**

WARNING

CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.

CAUTION

ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING AN APPLIANCE MUST BE REPLACED PRIOR TO OPERATING THE APPLIANCE.

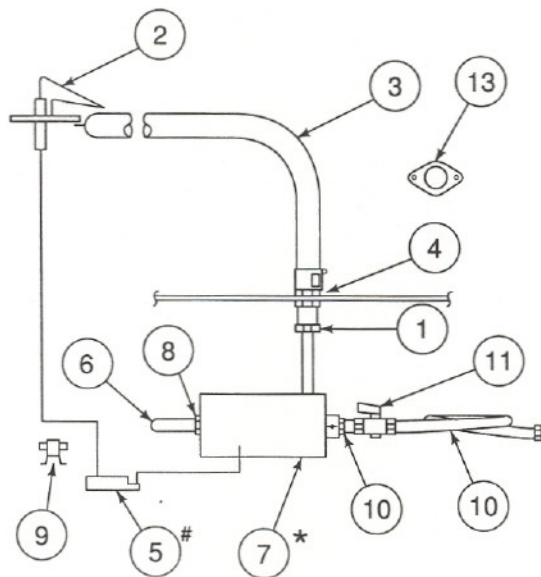
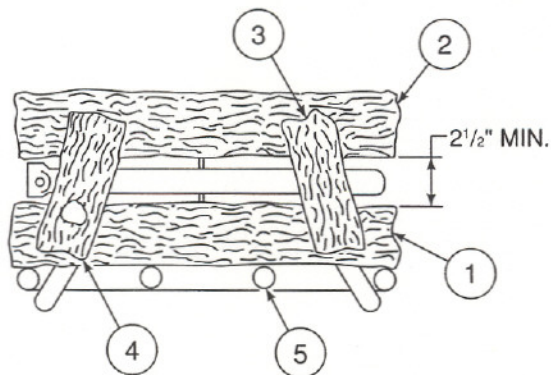
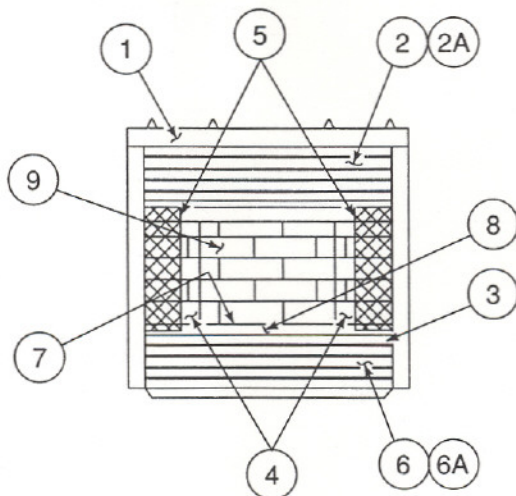
CLOTHING OR OTHER FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.

- F. **If optional glass doors are used, each time the appliance is lit it may cause condensation and fog the glass. This condition will disappear in a few minutes.**
- G. **Log Replacement.** Logs can be lifted out of position. If for any reason one should need replacement, you must use the proper replacement log. The position of these logs must be as shown in the diagram under Replacement Parts. The front and rear logs must be positioned against the inside of the burner supports to provide a 2 1/2" spacing between them. The top logs must be in the position as shown. **NOTE: Improper positioning of logs may create carbon build-up and will alter the unit's performance.**

TROUBLE SHOOTING

<u>Problem</u>	<u>Cause</u>	<u>Corrective Action</u>
1. Spark ignitor will not light burner after repeated attempts.	A. Defective ignitor.	Check for loose connections on electrode and ignitor. Check for spark. If electrode connection is correct and no spark, replace ignitor.
	B. Misaligned electrode.	Spark should be extending approx. 1/8" to ground wire. Adjust gap to give proper spark. Remove hands from electrode before attempting.
2. Burner will not stay lit.	A. Defective flame sensor.	Check burner flame. See Figure 6. Adjust sensor if necessary. Be sure sensor is secured tight into bracket. Be sure wiring connections are tight throughout system, including high limit switch.
	B. No ground.	Check that wiring is grounded as shown in Figure 5.
3. With valve and wall switch in "ON" position, no gas to burner.	A. Wall switch defective.	Check power source (fuses). Check wall switch for proper connections. Check for 24 volt power off secondary on the transformer.
	B. Plugged burner orifice.	Check burner orifice; remove blockage.
	C. Gas valve(s) shut off.	Check all gas valves leading to appliance. Turn to the "ON" position.

REPLACEMENT PARTS



* Valve identification must be made. They are marked White-Rodgers or Robertshaw.

Ignition Control identification must be made. They are marked Channel Products or Fenwal.

Replacement parts are available from your distributor/dealer, or through Heatilator Inc., 1915 W. Saunders Street, Mt. Pleasant, Iowa 52641.

ITEM	PART NO.	DESCRIPTION
1	12698	Top Front
2	14484	Upper Grille - GC420E/LE
2A	14770	Upper Face - G420E/LE
3	16121	Door Support Bar
4	11821	Side Refractory
5	12048	Screen
6	16114	Lower Grille - GC420E/LE
6A	16116	Lower Face - G420E/LE
7	14336	Lava Rock
8	13623	Ash Lip
9	12031	Back Refractory

ITEM	PART NO.	DESCRIPTION
1	13421	Front Log
2	13422	Back Log
3	13423	Right Log
4	13424	Left Log
5	14481	Grate

ITEM	PART NO.	DESCRIPTION
1	13405	Bulkhead Union 3/8"
2	17003	Ignitor/Sensor
3	13407	Burner Assembly
4	13410 13445	Orifice-Natural Orifice-Propane
5*	15695	Ignition Control (Channel Products) Ignition Control (Fenwal)
6	16129	Burner Tube
7*	71515 71516 71517 71518	Valve - Natural (White-Rodgers) Valve - Natural (Robertshaw) Valve - Propane (White-Rodgers) Valve - Propane (Robertshaw)
8	13425	Male Connector
9	17836	Transformer Assembly
10	16564	Valve Connector
11	16565	Manual On/Off Valve
12	16563	Appliance Connector
13	13595	High Limit Switch

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE OPERATING 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.

WHAT TO DO IF YOU SMELL GAS

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

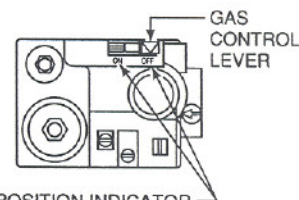
C. Use only your hand to push in and move the gas control lever, or rotate the gas control knob. Never use tools. If the lever will not push in or move by hand, don't try to repair it; call a qualified service technician. Force or attempted repair may result in a fire or explosion.

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.

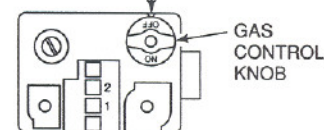
OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Turn wall switch to the "OFF" position.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light burner by hand.
- 5a. Push gas control lever in and move to the "OFF" position (Robertshaw).
- b. Rotate gas control knob to the "OFF" position (White-Rodgers).
6. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
7. Move gas control to the "ON" position.
8. Replace control access panel.
9. To turn on burner, turn on all electric power to this appliance.
10. If the appliance will not operate, follow the Instructions "TO TURN OFF GAS TO APPLIANCE" and call your service technician or gas supplier.



ROBERTSHAW

POSITION INDICATOR



WHITE-RODGERS

TO TURN OFF GAS TO APPLIANCE

1. Turn off the wall switch.
2. Turn off all electric power to the appliance if service is to be performed.
3. Push gas control lever in and move to the "OFF" position. Do not force.
4. Replace control access panel.

Due to high surface temperatures, keep children, clothing and furniture away.

Keep burner and control compartment clean. See Installation and Operating Instructions accompanying the appliance.