



# heatilator®

*The first name in fireplaces*

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



## G420 G420L GC420 GC420L INSTALLATION & OPERATING INSTRUCTIONS

### I. LISTINGS AND CODE APPROVALS

These vented decorative gas appliances with standing safety pilot 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

##### IF YOU SMELL GAS:

1. OPEN WINDOWS.
2. DON'T TOUCH ELECTRICAL SWITCHES.
3. EXTINGUISH ANY OPEN FLAMES.
4. IMMEDIATELY CALL YOUR GAS SUPPLIER.

#### 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.**

## G420, G420L, GC420 & GC420L GAS APPLIANCES

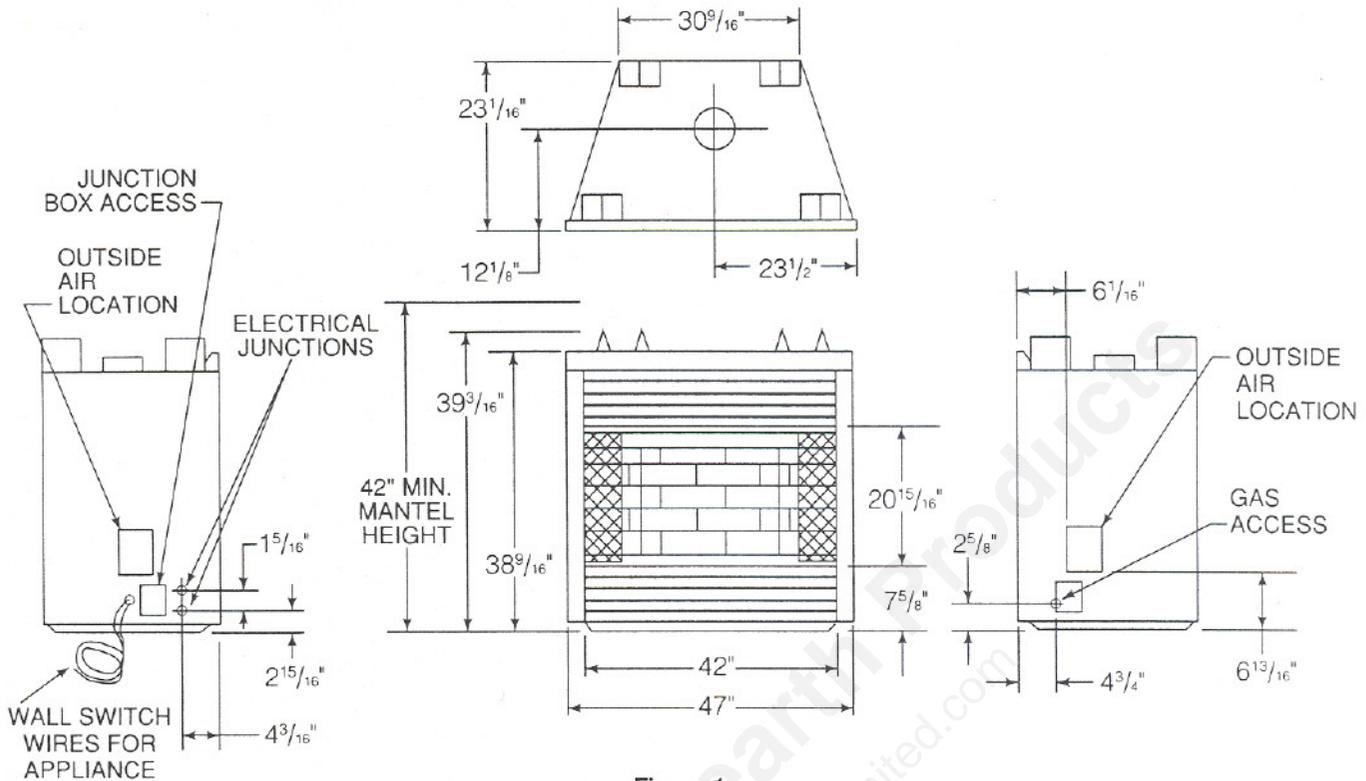


Figure 1

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

Catalog Number	Description
G420	5" Up Vent Natural Gas Decorative Appliance (Non-Circulator)
GC420	5" Up Vent Natural Gas Decorative Appliance (Circulator)
G420L	5" Up Vent Propane Gas Decorative Appliance (Non-Circulator)
GC420L	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 GC420 & GC420L Only)
FK13	Fan Kit - Two Fans & Wiring Harness (Optional on GC420 & GC420L Only)
BC10	Motor Speed Control
RC4	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 Z223.1-1988 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 Z223.1-1988, Appendix F, for resizing orifice. A derated orifice is supplied with your unit.

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

### III. GAS APPLIANCE LOCATIONS, SPACE AND CONSTRUCTION REQUIREMENTS

The G420(L) or GC420(L) 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 unit 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.

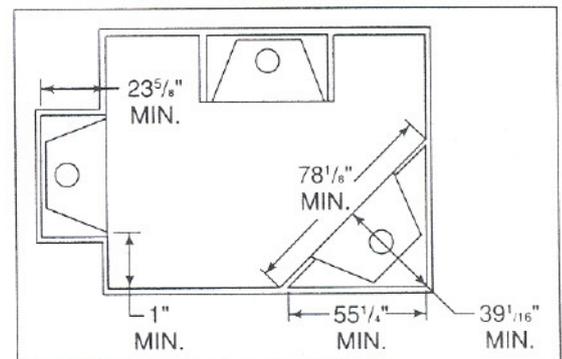


Figure 2

### 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 unit. A separate manual on/off gas valve, supplied with the appliance, should always be utilized.

#### STEP 3

If an optional FK13 Fan Kit or RC4 Remote Control Kit are to be used, wiring should be done at this time. 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 70-1984 or, in Canada, the current CSA C22.1 Canadian Electrical Code. Wiring diagrams are shown in Figure 3 and are also provided with these accessories.

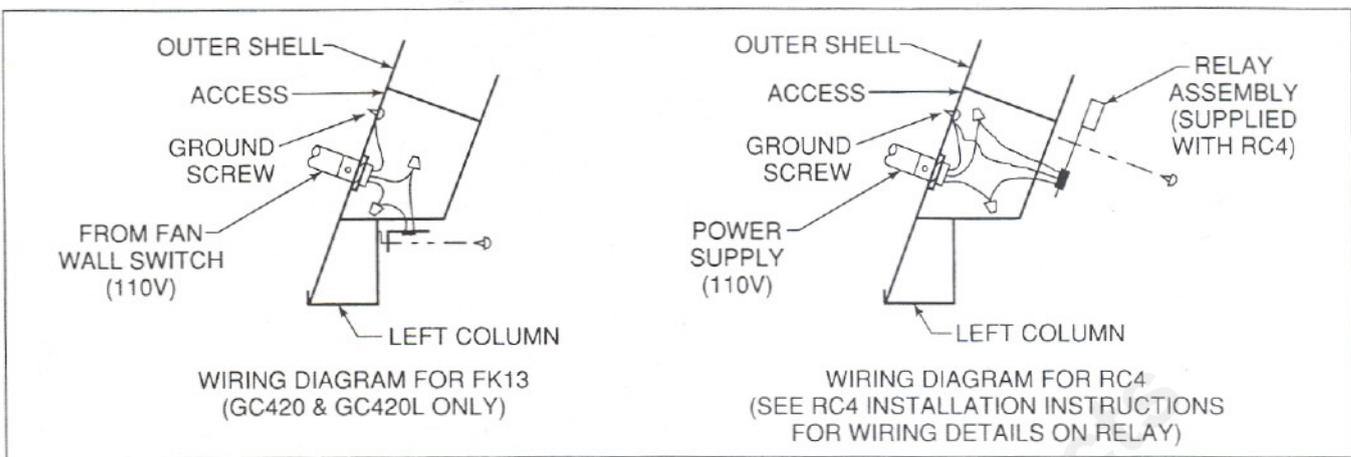


Figure 3

**STEP 4**

Slide the unit into position.

**STEP 5**

Secure the unit 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**

Connect the wires from outside of unit to the supplied wall switch as shown in Figure 5. The wall switch should be installed in a convenient location. **NOTE: The maximum wire length is 40 ft.** Run the  $\frac{3}{8}$ " pipe approximately 3" into the unit. Connect the gas line to the appliance, using  $\frac{3}{8}$ " 45° flare fitting. Check for gas leaks with a soap and water solution. See Figure 4 for location of gas valve.

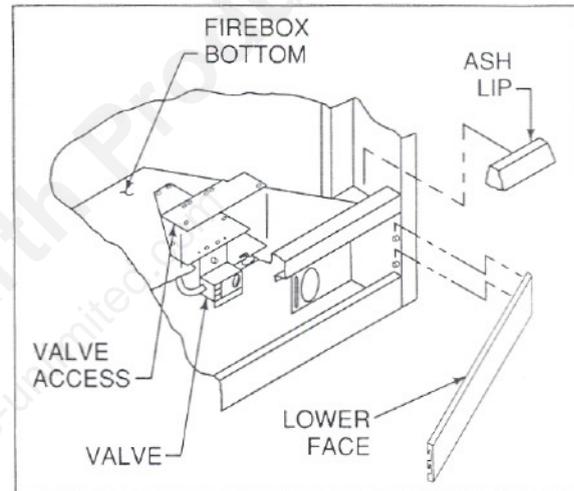


Figure 4

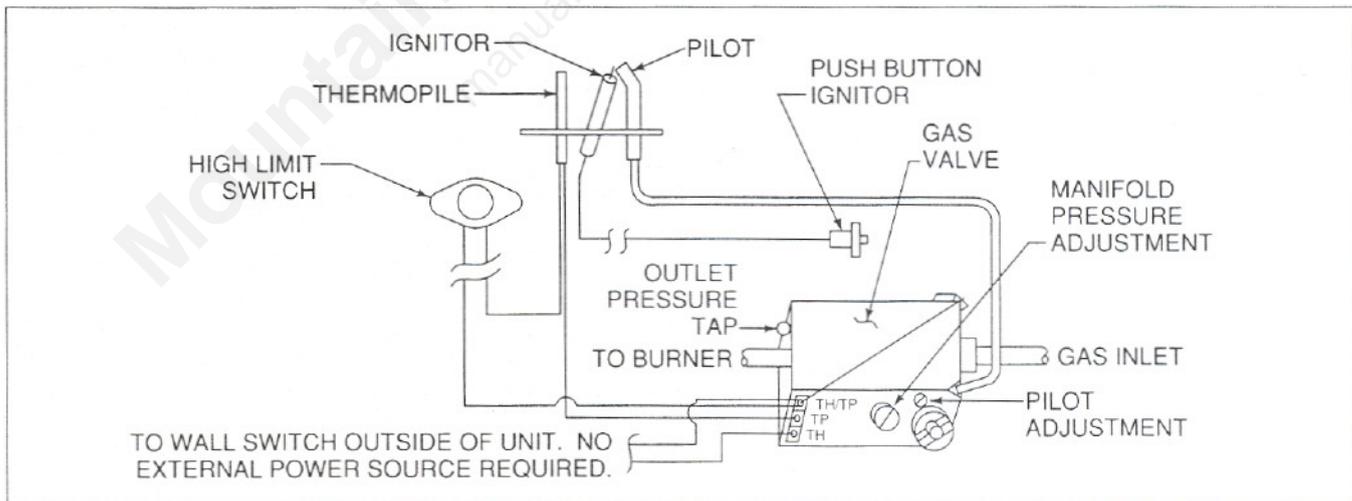


Figure 5

**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.

## □ 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 Unit.** When finishing the face of the unit, combustible material may be brought up to the sides of the unit, 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 unit, as this may create a fire hazard.** If a mantel is to be used, a minimum of 42" from the base of the unit 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

This gas appliance uses a millivolt control system consisting of a Pilot Burner, Thermopile, Gas Control Valve, Limit Switch and an On/Off Switch.

### LIGHTING PROCEDURE

1. Remove the lower face by lifting it up and then pulling it off.
2. Turn the wall switch to the "Off" position.
3. Turn the gas knob to the "Off" position.
4. Wait five minutes to allow gas, that may have accumulated in the main burner compartment, to escape.
5. Turn the gas knob to the "Pilot" position.
6. Depress and hold the gas knob while pressing the ignitor button as many times as it takes to light the pilot. Allow pilot to burn for 1 1/2 minutes before releasing gas knob.
7. Turn gas knob to the "On" position.
8. Turn wall switch to the "On" position. This will turn on the main burner.

### TO TURN OFF MAIN BURNER.

1. Move the wall switch to the "Off" position.

### SHUTDOWN PROCEDURE

1. To shut off the main burner, move the wall switch to the "Off" position.
2. Turn the valve gas knob to the "Off" position. This will turn off the main burner and pilot.

### PILOT BURNER ADJUSTMENT (Preset at factory)

1. Remove the pilot adjustment cap from the valve. See Figure 5.
2. Adjust the pilot key to provide properly sized flame. Refer to the Maintenance Instructions.
3. Replace the pilot adjustment cap.

### MAINTENANCE INSTRUCTIONS

Keep the burner and control compartment clean by brushing at least once a year. Always turn off the gas before cleaning.

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 top 3/8" of the pilot sensor should be covered with flame. See Figures 6 and 7.

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.

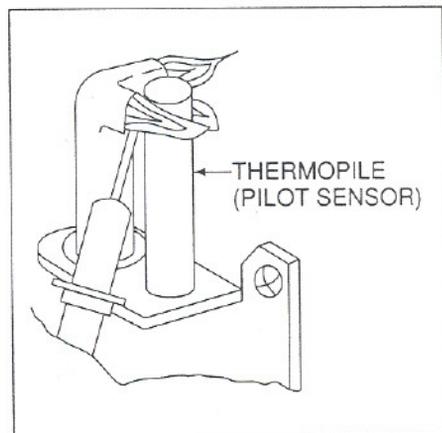


Figure 6

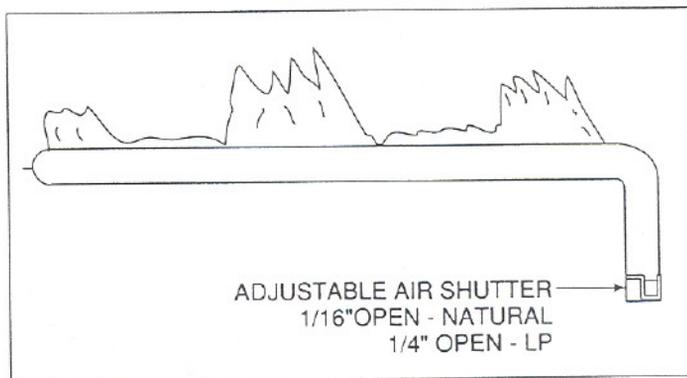


Figure 7

Keep the area near the appliance clear and free from combustible materials, gasoline and other flammable vapors and liquids.

**NOTE: When first operated, the unit 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.**

**NOTE: 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.**

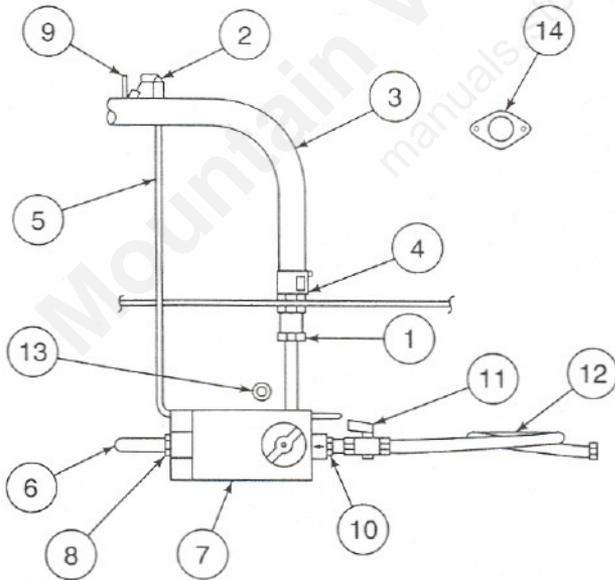
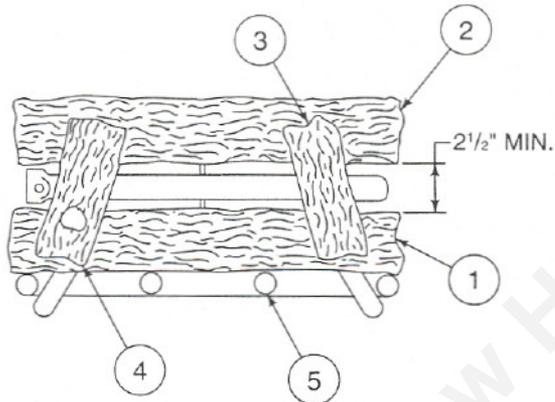
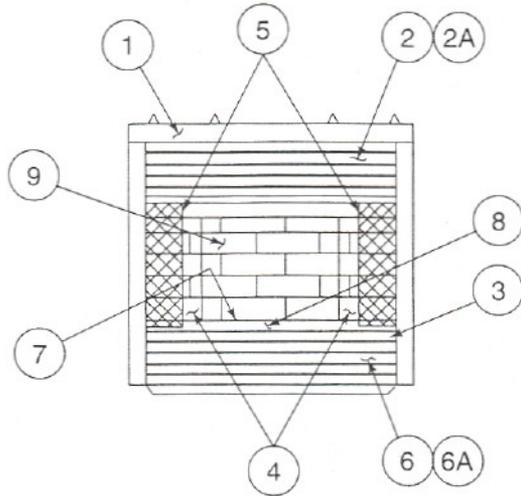
#### LOG REPLACEMENT:

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 the pilot after repeated pressing of Red Button.	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 at pilot.	Spark should be extending approx. 1/8" to pilot. Adjust gap to give proper spark. Remove hands from electrode before pressing Red Button.
2. Pilot light will not stay lit.	A. Defective pilot thermopile.	Check pilot flame. See Fig. 6. Adjust flame if necessary. Be sure thermopile is secured tight into pilot bracket. Be sure wiring connections are tight throughout system, including high limit switch. Check thermopile voltage with millivolt meter. Depress valve knob and light pilot. Meter should read min. of 325 millivolt. If not, replace thermopile.
	B. Plugged burner orifice.	Check burner orifice; remove blockage.
3. With pilot lit, valve and wall switch in "ON" position, no gas to burner.	A. Wall switch defective.	Check wall switch for proper connections. Connect wires across terminal at wall switch. If burner comes on, replace wall switch. If burner does not come on, connect to wall switch junctions at valve. If burner comes on, replace wires.
	B. Plugged burner orifice.	Check burner orifice; remove blockage.

## REPLACEMENT PARTS



ITEM	PART NO.	DESCRIPTION
1	13433	Top Front
2	14484	Upper Grill - GC420/L
2A	14770	Upper Face - G420/L
3	16121	Door Support Bar
4	11821	Side Refractory
5	12048	Screen
6	16114	Lower Grill - GC420/L
6A	16116	Lower Face - G420/L
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	13406	Pilot W/Bracket - Natural
	13444	Pilot W/Bracket - Propane
3	13407	Burner Assembly
4	13410	Orifice - Natural
	13445	Orifice - Propane
5	16131	Pilot Tube (Robertshaw)
	18707	Pilot Tube (White-Rodgers)
6	16129	Burner Tube
7	12191	Valve - Natural (Robertshaw)
	12191	Valve - Natural (White-Rodgers)
	14160	Valve - Propane (Robertshaw)
	14160	Valve - Propane (White-Rodgers)
8	13425	Male Connector
9	13411	Thermopile
10	16564	Valve Connector
11	16565	Manual On/Off Valve
12	16563	Appliance Connector
13	13416	Push Button Ignitor
14	16957	High Limit Switch

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

# *Attention*

## **APPLIANCE INSTALLER**

*Please return these  
Operating & Installation  
Instructions to the  
Appliance  
for Consumer Use*

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