BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

Missouri Propane Gas Association,	)	
	)	
Complainant,	)	
	)	
v.	)	**Case No. GC-2016-0083**
	)	
Summit Natural Gas of Missouri, Inc.,	)	
	)	
Respondent.	)	

RESPONSE OF SUMMIT NATURAL GAS OF MISSOURI INC. IN OPPOSITION TO MOTION FOR PARTIAL SUMMARY DETERMINATION

COMES NOW Summit Natural Gas of Missouri, Inc. ("Summit"), and for its Response to the Motion for Partial Summary Determination filed by the Missouri Propane Gas Association ("MPGA") on May 13, 2016 states as follows:

RESPONSE TO MPGA'S NUMBERED FACTUAL STATEMENTS

Pursuant to 4 CSR 240-2.117(1)(C),[1] Summit makes the following response to MPGA's statement of material facts that it asserts are not in dispute.

1. Summit admits the allegations in paragraph 1, which are entirely a recitation of parts of the procedural history of this case.

2. Summit admits that Count II of the First Amended Complaint alleges that Summit violated the Commission order approving the Partial Stipulation and Agreement as to Dual Fuel and Conversion of Appliances (the "Agreement") entered into in Case No. GR-2014-0086. Summit denies all remaining allegations in paragraph 2. Summit denies that the Agreement

[1] "The response shall admit or deny each of movant's factual statements in numbered paragraphs corresponding to the numbered paragraphs in the motion for summary determination…."

contains any provisions related to unvented gas heating products, denies that it failed to follow manufacturer's specifications in converting appliances of any type, and denies that it violated the Agreement or the Commission's order approving that Agreement. Summit denies that MPGA has framed the question appropriately in paragraph 2. MPGA alleges that Summit "converted unvented gas heating products from propane to natural gas in violation of manufacturer's specifications." (Emphasis added.) The *actual language* from the Agreement is that "For converting appliances from propane to natural gas, SNGMO agrees to follow all applicable national and local codes and manufacturers' specifications relating to the conversion of appliances." Clearly conversions were contemplated by the Agreement and the factual question presented here is: did Summit "follow all applicable … manufacturers' specifications relating to the conversion of appliances?"

3. Summit admits that it converted the appliances referenced in paragraph 3 of MPGA Affiant Brian Brooks' affidavit. Summit denies all remaining allegations in paragraph 3. Summit denies that MPGA or its Affiant Mr. Brooks are experts with respect to manufacturer's specifications, denies their apparent claim that all statements in an owner's manual constitute "specifications" and denies that their proffered definition of specifications is appropriately applied to the use of that term in the Agreement. Summit admits the specific owner's manuals contain the language quoted, but denies that those statements are specifications, that they are directed to natural gas providers like Summit and denies that they are relevant to the Agreement.

4. Summit admits that it performed the conversion noted in paragraph 4. Summit admits that the owner's manual attached as Exhibit 1 to Mr. Brooks' affidavit covers this model, and notes that the manual also covers the natural gas version of this appliance manufactured by the same manufacturer, which is so similar to the propane version that both are covered by the

same owner's manual. Summit admits that the manual attached as Exhibit 1 to Mr. Brooks' affidavit contains the words quoted in paragraph 4, but denies that any of those quotations constitute "manufacturers' specifications" generally or as that phrase is used in the Agreement or which can or should be followed in converting the appliance. Summit denies all remaining allegations in paragraph 4.

5. Summit admits that it converted an appliance manufactured by DESA on January 23, 2015. Summit admits that one of the identifying model numbers of that appliance is model number VGF28PT. Summit admits that the manual attached as Exhibit 1 to Mr. Brooks' affidavit contains the words quoted in paragraph 5, but denies that any of those quotations constitute "manufacturers' specifications" generally or as that phrase is used in the Agreement or which can or should be followed in converting the appliance. Summit denies all remaining allegations in paragraph 5.

6. Summit admits that it converted the appliance referenced in paragraph 6. Summit admits that the quoted statements in part "a" of paragraph 6 appear on the label attached to that appliance. Summit denies that the label reproduced as the first page of Exhibit 4 to Mr. Brooks' affidavit is a "rating plate" or that it contains any "manufacturers' specifications" generally or as that phrase is used in the Agreement or which can or should be followed in converting the appliance. Summit is without sufficient information to form a belief as to the accuracy of MPGA's allegation that the "Owner's Manual is consistent with the language in the rating plate," and therefore denies that allegation. Summit admits that the quoted statements in part "b" of paragraph 6 appear in the owner's manual attached as Exhibit 4 to Mr. Brooks' affidavit, but denies that any of those quotations constitute "manufacturers' specifications" generally or as that phrase is used in the Agreement or which can or should be followed in converting the appliance.

7. Summit admits that it converted the appliance referenced in paragraph 7. Summit admits that the quoted statements in paragraph 7 appear in the owner's manual attached as Exhibit 5 to Mr. Brooks' affidavit, but denies that any of those quotations constitute "manufacturers' specifications" generally or as that phrase is used in the Agreement or which can or should be followed in converting the appliance.

MATERIAL FACTS IN DISPUTE

8. With its Notice of Voluntary Partial Dismissal filed on May 20, 2016, MPGA has abandoned all but one of the allegations it raised in its First Amended Complaint. Significantly, no safety claim remains. Indeed, the only remaining issue in this case is whether Summit, when it converted four unvented room heater appliances from propane to natural gas, failed to follow "applicable … manufacturers' specifications." MPGA attempts to equate "manufacturers' specifications" with certain statements in the various manuals provided to the owners and users of the appliances. This interpretation is wrong and lacks any foundation. MPGA asserts an interpretation of owner's manuals that is fundamentally inconsistent with the way the phrase "manufacturers' specifications" is commonly used in the fuel gas industry. MPGA's motion raises many questions of material fact, including, but not limited to:

A. Do the statements that MPGA selected from the owner's manuals constitute "applicable … manufacturers' specifications related to the conversion of appliances" that must be followed in the context of the Agreement?

B. If the statements in the owner's manuals constitute "specifications relating to the conversion of appliances," do they apply to natural gas suppliers such as Summit?

C. Does MPGA have any basis for its interpretation of the statements in the owner's manuals and their supposed relationship to the language in the Agreement that forms the basis of the sole remaining issue in the First Amended Complaint?

D. Does Mr. Brooks' affidavit demonstrate that he has the requisite knowledge or expertise to support MPGA's claims where no qualifications are demonstrated, no support for understanding the intent of the various manufacturer's statements is shown and where Mr. Brooks' affidavit merely copies statements without context from the various owner's manuals?

E. If the phrases in the owner's manuals constitute "specifications relating to the conversion of appliances" applicable to Summit, did the Agreement that allowed conversions require they be followed?

F. Do manufacturers of unvented gas heating products intend by their owner's manual statements to prohibit a natural gas supplier such as Summit from converting appliances from propane to natural gas when such conversions are requested by the owners of those appliances and expressly authorized by the National Fuel Gas Code, and, in any event, do manufacturers have the authority to impose such a prohibition?

9. Because these clearly disputed facts are the purported underpinnings of the MPGA's motion for summary determination, summary determination is not proper. Additionally, as is set out in Summit's Legal Memorandum in Support of Summit Natural Gas of Missouri, Inc.'s Response in Opposition to Motion for Partial Summary Determination, MPGA's motion for summary determination fails to meet the legal standards for the relief requested. That

memorandum is incorporated herein as and for Summit's opposition to MPGA's motion for summary determination.

10. Additionally, Summit provides its own proof to support its full compliance with the Agreement which also refutes MPGA's claims. Set out below is some of the proof Summit intends to offer at the hearing on this matter to support its position.

11. First, it is axiomatic that owner's manuals are just that – manuals provided to owners of appliances. While the manuals commonly contain certain manufacturer's limited specifications concerning the appliance, they also contain information that is not considered "specifications," but instead informs consumers about usage and safety. While owner's manuals do contain some specifications, warnings to homeowners about tinkering with gas-supplied appliances are not "specifications."

12. Indeed, the Business Dictionary defines "manufacturers' specifications" as a "Documented description of performance specifications of a component, subassembly, or system that are to be met during the manufacturing process, as well as the procedure by which those specifications will be assessed."[2] Merriam-Webster's dictionary defines "specifications" as "a detailed description of work to be done or materials to be used in a project: an instruction that says exactly how to do or make something."[3] Neither of these definitions supports MPGA's interpretation that all statements in owner's manuals constitute specifications.

13. Second, Summit submits the attached affidavit of David W. Meyer (Exhibit A), an expert with significant work experience including on behalf of manufacturers of natural gas appliances and whose experience includes conversions of hundreds of appliances from propane to natural gas, which explains that statements in "owner's manuals" *are not* equivalent to "all

[2] http://www.businessdictionary.com/definition/manufacturing-test-specification-and-procedure .html.
[3] http://www.merriam-webster.com/dictionary/specifications

applicable … manufacturers' specifications regarding conversions" generally or as used in the Agreement.

14. For example, in paragraph 7 of his affidavit, Mr. Meyer states that "[b]ased on my experience in the propane and natural gas industries, the reference to 'manufacturers' specifications' in this context generally means that the person converting an appliance from propane to natural gas will use components and procedures to ensure that following conversion, the appliance will continue to perform at a level equal to or better than its original performance specifications."

15. Indeed, manufacturer's specifications constitute measurable attributes concerning the products' manufacture such as the size of the orifices, the input and output pressures at the regulator, the amount of carbon monoxide emitted, the presence and proper operation of an oxygen depletion sensor, and so on. By way of analogy, statements in a vehicle's owner's manual that the driver should always engage the parking brake when parking on a hill or always chock the tires when jacking up the vehicle are not the vehicle manufacturer's specifications. The vehicle's specifications relate to performance criteria for items such as fuel efficiency, acceleration, engine horsepower and displacement.

16. Mr. Meyer notes at paragraph 8 of his affidavit that the vast majority of the components for the propane and the natural gas versions of the same appliance are identical. The owner's manuals attached to Mr. Brooks' affidavit and to this pleading bear this point out. The manual attached as Exhibit 1 to Mr. Brooks' affidavit is for one of the propane appliances that Summit converted, but that propane appliance is so similar to the natural gas version of the same appliance that the parts diagram at page 34 and the parts list at page 35 cover both the propane and the natural gas versions of the appliance. In the parts list on page 35, the parts for the

propane version are shown in the column with VMH26PRB and EFS26PRA at the top, and the parts for the natural gas version are shown in the column with VMH26NRB and EFS26NRA at the top.[4] Mr. Brooks' Exhibit 1 also supports a conclusion that almost all parts are identical between the propane and the natural gas versions of this appliance except for some screws, the oxygen depletion sensor, a regulator and regulator tube on the LP model, the injector, and the valve and pilot tube. These are all discrete, easily replaceable parts.

17. The manual attached as Exhibit 1 to Mr. Brooks' affidavit also lists an "NG Conversion Plate" as part 43 on page 35 – a part which the manufacturer would provide for no other conceivable purpose than to support the conversion of propane appliances by natural gas distribution companies such as Summit. The listing of the natural gas conversion plate (among other parts) in the parts list does not indicate that it is "not available for field replacement" – a notation that is made for only one specific part (the Firebox Wrapper). The fact that natural gas conversion plates are made available without express limitation for use in connection with field conversions supports not only the conclusion that a gas supplier such as Summit is authorized by the National Fuel Gas Code to convert these types of propane appliances, but also that the manufacturer expects that a gas supplier such as Summit will do so. At the same time, it makes sense for manufacturers to discourage homeowners from converting propane appliances, as most homeowners lack the qualifications of gas utility technicians. For a manufacturer to offer a natural gas conversion plate that is available for field replacement for an unvented propane room heater is directly at odds with MPGA's position that all manufacturers strictly prohibit such conversions even when performed by authorized personnel in conformity with the National Fuel Gas Code.

[4] The "P" in the first two designates propane, while the "N" in the second two designates natural gas.

18. Additionally, Exhibit 2 to Mr. Brooks' affidavit is the owner's manual for a propane appliance manufactured by DESA with the model number VGF28PT. The natural gas version of this appliance is model number VGF28NT, and can be downloaded using the exact procedure that Mr. Brooks describes in Exhibit 3 to his affidavit (except choosing the "N" version of the appliance instead of the "P" version). A copy of the owner's manual for the natural gas version is attached hereto as Exhibit B. For this appliance, the parts diagrams and parts lists are identical between the propane version and the natural gas version, although a few of the part numbers are different (for example, the oxygen depletion sensor has a different part number on the natural gas version than the propane version). Again, this shows that the two versions of the appliance are identical except for a few discrete, easily replaced parts.

19. Exhibit 4 to Mr. Brooks' affidavit contains an owner's manual that covers both the natural gas and propane versions of several models of unvented gas fireplaces. As is the case with all of the appliances that Mr. Brooks discusses, the propane and natural gas versions are made with identical parts except for the few that are necessarily different because of the type of gas. Mr. Brooks' Exhibit 4 has just one parts diagram to display the parts for both the natural gas version and the propane version of the appliance. There are only four parts that differ: the air shutter, the orifice, the regulator, and the oxygen depletion sensor.

20. Exhibit 5 to Mr. Brooks' affidavit is another owner's manual that covers both the natural gas and propane versions of an unvented gas fireplace. Page 14 of that exhibit (which is page 13 of the manual) shows that the propane and natural gas versions are made with identical parts except for the few that are necessarily different between the two. For this fireplace, there are only three parts that differ: the burner supply tube, the oxygen depletion sensor, and the valve.

21. Because there are only a few differences between the propane and natural gas versions of all of the fireplaces at issue here – literally just a handful of easily replaced or modified parts – it is quite possible, appropriate and indeed industry practice for experienced and qualified utility technicians to convert these appliances from propane to natural gas while following all applicable manufacturers' specifications. MPGA has presented no evidence that the converted appliances do not operate at the proper supply pressure and operating pressure, or that the openings in the orifice spuds are improperly sized. As Mr. Meyer testifies in his affidavit, these are the types of "applicable … manufacturers' specifications" accepted in the industry and this is the most reasonable interpretation of the phrase in the Agreement.

22. Summit submits that Mr. Brooks has not demonstrated that he is qualified to offer an expert opinion on the dispositive question of fact in this matter – the meaning of the statements in the owner's manuals in relationship to the language in the Agreement. His testimony fails to establish foundational support for MPGA's interpretation of the owner's manuals or the Agreement. His affidavit is the sole support for the MPGA's Motion for Partial Summary Disposition, and his qualifications hardly support sufficient relevant expertise. Mr. Brooks' affidavit notes only that he is the "Hearth Products Manager" and "Assistant Office Manager" for Brooks Gas Company and a member of the MPGA board. In his testimony filed in Case No. GR-2014-0083 in July 2014, Mr. Brooks stated that he was at that time the "Hearth Products Manager" for Brooks Gas, a propane business owned by his family. In July 2014, Mr. Brooks had only "six and a half years" of experience in the propane business.[5] Mr. Brooks' testimony (without any consideration of whether it is driven by the commercial interest of Brooks Gas, a direct competitor of Summit), offers lay opinions that, as demonstrated by the counter-affidavit of Mr. Meyer, are unavailing.

[5] Case No. GR-2014-0083, Rebuttal Testimony of Brian Brooks, page 1.

23. Mr. Meyer's sworn testimony shows the inaccuracy and insufficiency of Mr. Brooks' testimony. Mr. Meyer has over 43 years of experience in both the propane and the natural gas industries. He has himself converted hundreds of appliances, and has decades of experience with the terminology used by manufacturers, technicians and service providers in both the propane and the natural gas industries. His extensive experience is documented in the curriculum vitae attached to his affidavit as Exhibit 1. At the very least, Mr. Meyer's testimony requires that the Commission evaluate the conflicting testimonies of these two witnesses to resolve the genuine issues of material fact raised in this case.

24. Questions such as the sufficiency of Mr. Brooks' testimony and the foundation of that testimony as contradicted by the testimony of Mr. Meyers, an industry expert, are matters to be resolved at hearing, and not on summary disposition.

WHEREFORE, Summit respectfully requests that the Commission deny MPGA's Motion for Partial Summary Determination.

Respectfully Submitted,

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ATTORNEY FOR SUMMIT NATURAL GAS OF MISSOURI, INC.

CERTIFICATE OF SERVICE

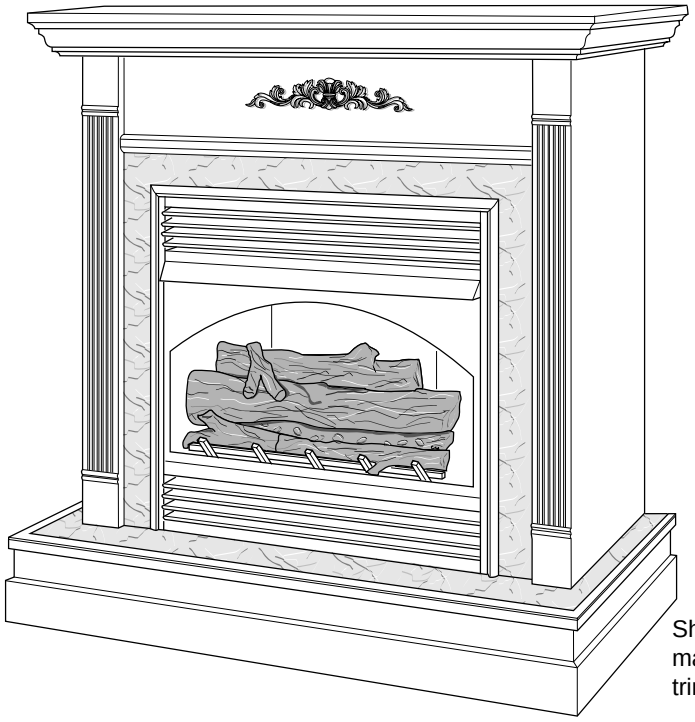
I do hereby certify that a true and correct copy of the foregoing document has been emailed to all parties of record this 13th day of June, 2016.

/s/ Lewis Mills
Lewis Mills

DESA INTERNATIONAL

UNVENTED (VENT-FREE) NATURAL GAS FIREPLACE

OWNER'S OPERATION AND INSTALLATION MANUAL



Shown with optional cabinet mantel, hearth base, and trim accessories.

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.

DESIGN CERTIFIED AMERICAN GAS ASSOCIATION

Save this manual for future reference.

CONTENTS

SAFETY INFORMATION

⚠ WARNINGS

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate, or service this fireplace. Improper use of this fireplace can cause serious injury or death from burns, fire, explosion, electrical shock, and carbon monoxide poisoning.

⚠ DANGER

Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, the fireplace may not be working properly. **Get fresh air at once!** Have fireplace serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Natural Gas: Natural gas is odorless. An odor-making agent is added to the gas. The odor helps you detect a gas leak. However, the odor added to the gas can fade. Gas may be present even though no odor exists.

Make certain you read and understand all Warnings. Keep this manual for reference. It is your guide to safe and proper operation of this fireplace.

Safety Information continues on next page

SAFETY INFORMATION *Continued*

⚠ WARNINGS *Continued*

WARNING: Any change to this fireplace or its controls can be dangerous.

1. Use only natural gas. Do not convert fireplace to use different fuel type.
2. If you smell gas
   - shut off gas supply
   - 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
3. This fireplace shall not be installed in a bedroom or bathroom.
4. Never install the fireplace
   - in a recreational vehicle
   - where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the fireplace
   - in high traffic areas
   - in windy or drafty areas
5. Do not use this fireplace as a wood-burning fireplace. Use only the logs provided with the fireplace.
6. Do not add extra logs or ornaments such as pine cones, vermiculite, or rock wool. Using these added items can cause sooting. Do not add lava rock around base. Rock and debris could fall into the control area of fireplace.
7. You must operate this fireplace with the fireplace screen in place. Make sure fireplace screen is in place before running fireplace.
8. This fireplace is designed to be smokeless. If logs ever appear to smoke, turn off fireplace and call a qualified service person. *Note:* During initial operation, slight smoking may occur due to log curing and fireplace burning manufacturing residues.
9. Avoid any drafts that alter burner flame patterns. Do not allow fans to blow directly into fireplace. Do not place a blower inside burn area of firebox. Use only the blowers provided with this fireplace. Ceiling fans may create drafts that alter burner flame patterns. Sooting and improper burning will occur. Sooting can settle on household surfaces outside the fireplace.
10. This fireplace needs fresh air ventilation to run properly. This fireplace has an oxygen depletion sensor (ODS) pilot light safety system. The ODS shuts down the fireplace if not enough fresh air is available. See *Air for Combustion and Ventilation*, pages 6 through 8. If fireplace keeps shutting off, see *Troubleshooting*, pages 26 through 30.
11. Do not run fireplace
    - where flammable liquids or vapors are used or stored
    - under dusty conditions
12. Do not use this fireplace to cook food or burn paper or other objects.
13. Never place any objects in the fireplace or on logs.
14. Fireplace front and screen becomes very hot when running fireplace. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Fireplace will remain hot for a time after shut-down. Allow surfaces to cool before touching.
15. Carefully supervise young children when they are in the room with fireplace.
16. Do not use fireplace if any part has been exposed to or under water. Immediately call a qualified service technician to inspect the fireplace and to replace any part of the control system and any gas control which has been under water.
17. Do not operate fireplace if any log is broken. Do not operate fireplace if a log is chipped (dime-sized or larger).
18. Turn fireplace off, unplug, and let cool before servicing. Only a qualified service person should service and repair fireplace.
19. Operating fireplace above elevations of 4,500 feet may cause pilot outage.

PRODUCT IDENTIFICATION

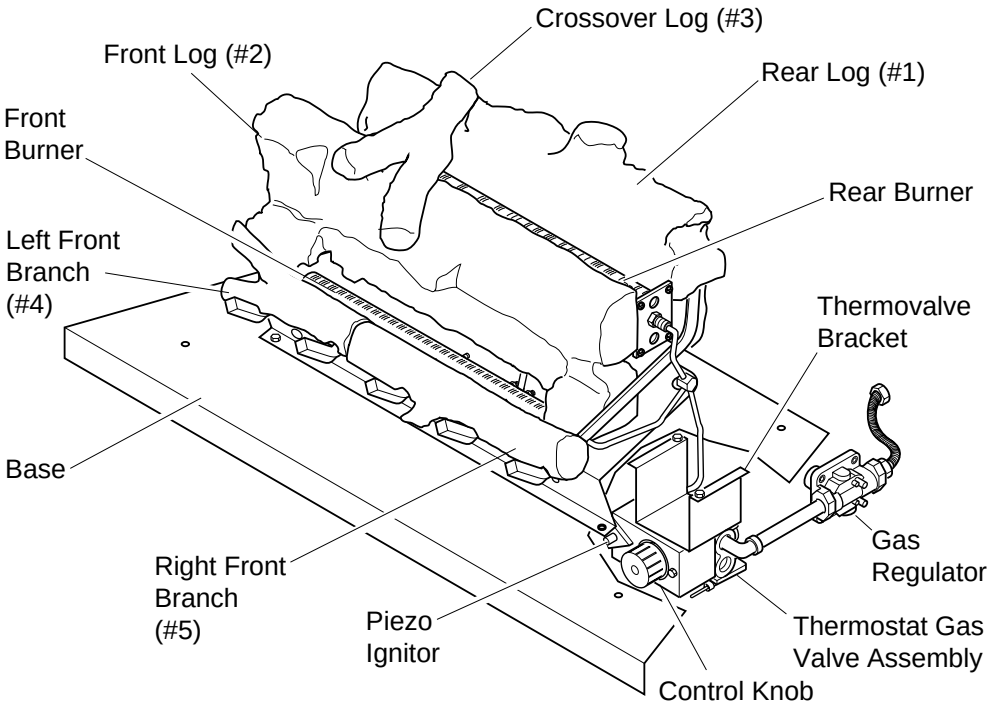


Figure 1 - Log Base Assembly

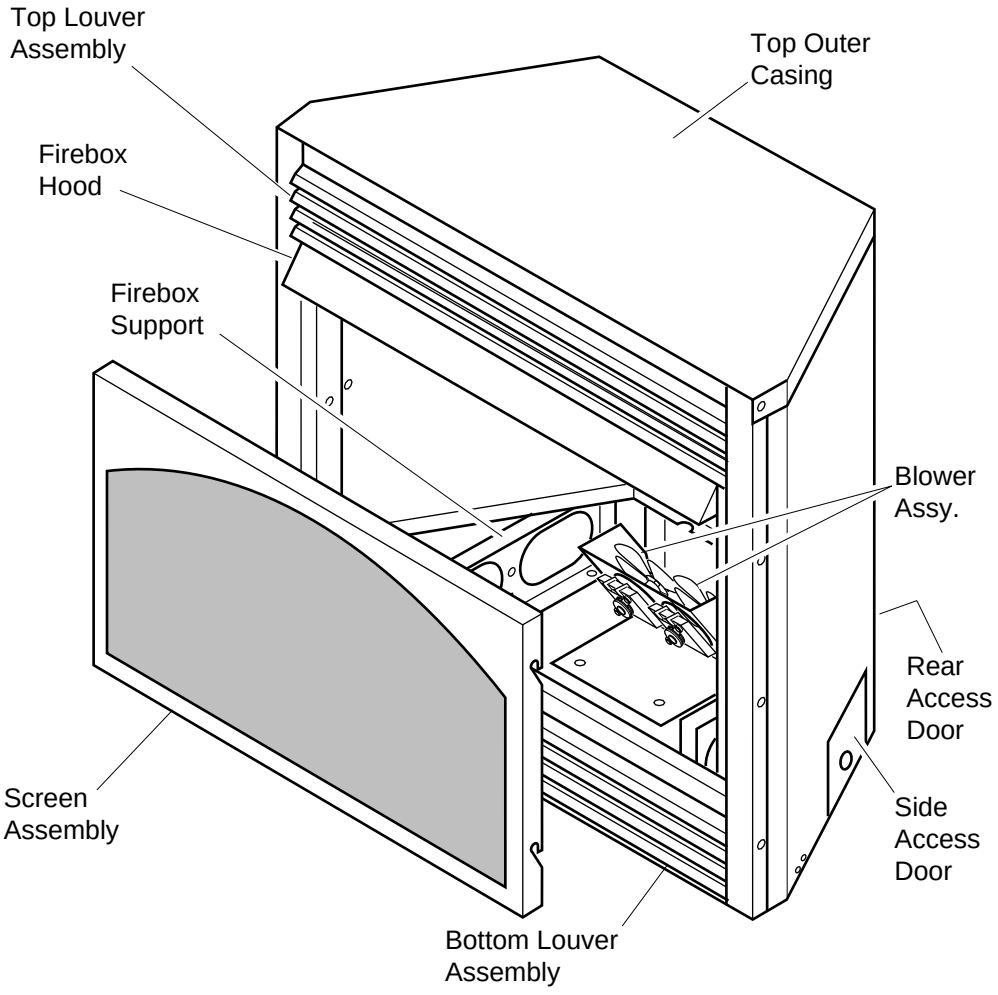


Figure 2 - Fireplace

LOCAL CODES

Install and use fireplace with care. Follow all local codes. In the absence of local codes, use the latest edition of The National Fuel Gas Code ANSI Z223, also known as NFPA 54*.

*Available from:

American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

National Fire Protection Association, Inc.
Batterymarch Park
Quincy, MA 02269

UNPACKING

1. Remove trim kit and cartons containing logs from carton. Place the carton containing the fireplace unit on its back. Hold fireplace unit and pull the carton and pallet away.
2. Remove protective packaging applied to logs, log base assembly, and fireplace. You may not want to remove protective plastic on front of fireplace until after installing. This will protect fireplace from dust, debris, and damage during installation.
3. Check all items for any shipping damage. If damaged, promptly inform dealer where you bought fireplace.

PRODUCT FEATURES

Operation

This vent-free fireplace is clean burning. It requires no outside venting. There is no heat loss out a vent or up a chimney. Heat is generated by both realistic flames and glowing embers.

Safety Device

This fireplace has a pilot with an Oxygen Depletion Sensor Shutoff System (ODS). The ODS/pilot is a required feature for vent-free room heaters. The ODS system shuts off the fireplace if there is not enough fresh air.

Piezo Ignition System

This fireplace has a piezo ignitor. This system requires no matches, batteries, or other sources to light fireplace.

Blower Assembly

This fireplace has a blower assembly. The blower operates thermostatically or manually. The blower circulates heated air from the fireplace into the room.

Thermostat Control

This fireplace has a thermostat sensing bulb and a control valve. The thermostat controls the heat output and flame height. This maintains a consistent room temperature. Even the lowest setting provides realistic flames and glowing embers from two burners. Selecting higher comfort settings allows fireplace to run longer, producing greater heat output. At lower comfort settings, the fireplace will run less. This results in increased heating comfort. This can also result in lower gas bills.

AIR FOR COMBUSTION AND VENTILATION

⚠ WARNING

This fireplace must have fresh air for proper operation. If not, poor fuel combustion could result. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

Today's homes are built more energy efficient than ever. New materials, increased insulation, and new construction methods help reduce heat loss in homes. Home owners weather strip and caulk around windows and doors to keep the cold air out and the warm air in. During heating months, home owners want their homes as airtight as possible.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. Fresh air enters the home through and around doors and windows. This may provide enough fresh air for combustion and ventilation. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireplaces, clothes dryers, and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

PROVIDING ADEQUATE VENTILATION

The following are excerpts from the *National Fuel Gas Code NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation.*
All spaces in homes fall into one of the three following ventilation classifications:
1. Unusually Tight Construction; 2. Unconfined Space; 3. Confined Space.
The information on pages 6 through 8 will help you classify your space and provide adequate ventilation.

Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm or less with openings gasketed or sealed *and*
b. weather stripping has been added on openable windows and doors *and*
c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical, and gas lines, and at other openings.

If your home meets all of the three criteria above, you must provide additional fresh air. See *Ventilation Air From Outdoors*, page 8.

If your home does not meet all of the three criteria above, proceed to page 7.

Unconfined Space

An unconfined space has a minimum air volume of 50 cubic feet for each 1000 BTU/Hr input rating of all appliances in the space (cubic feet equals length x width x height of space). Include adjoining rooms only if there are doorless passageways or ventilation grills between the rooms.

If the BTU per 50 cubic feet is less than 1000 BTU/Hr, then the fresh air will be provided by the natural air flow into the house.

Confined Space

A confined space has an air volume of less than 50 cubic feet for each 1000 BTU/Hr input rating of all appliances in the space (cubic feet equals length x width x height of space). Include adjoining rooms only if there are doorless passageways or ventilation grills between the rooms.

AIR FOR COMBUSTION AND VENTILATION

Continued

DETERMINING AIR FLOW FOR FIREPLACE LOCATION

Determining if You Have a Confined or Unconfined Space

Use this work sheet to determine if you have a confined or unconfined space.

Space: Includes the room in which you will install fireplace plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.

1. Determine the volume of the space (length x width x height).

   Length x Width x Height = _____ cu. ft. (volume of space)

   Example: Space size 22 ft. (length) x 18 ft. (width) x 8 ft. (ceiling height) = 3168 cu. ft. (volume of space)

   If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.

2. Divide the space volume by 50 cubic feet to determine the maximum BTU/Hr the space can support.

   _____ (volume of space) ÷ 50 cu. ft. = (Maximum BTU/Hr the space can support)

   Example: 3168 cu. ft. (volume of space) ÷ 50 cu. ft. = 63.3 or 63,300 (maximum BTU/Hr the space can support)

3. Add the BTU/Hr of all fuel burning appliances in the space.

Vent-free fireplace		_____ BTU/Hr
Gas water heater*		_____ BTU/Hr
Gas furnace		_____ BTU/Hr
Vented gas heater		_____ BTU/Hr
Gas fireplace logs		_____ BTU/Hr
Other gas appliances*	+	_____ BTU/Hr
Total	=	_____ BTU/Hr

Example: Gas water heater		40,000	BTU/Hr
Vent-free fireplace	+	28,000	BTU/Hr
Total	=	68,000	BTU/Hr

* Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.

4. Compare the maximum BTU/Hr the space can support with the actual amount of BTU/Hr used.

   _____ BTU/Hr (maximum the space can support)
   _____ BTU/Hr (actual amount of BTU/Hr used)

   Example: 63,300 BTU/Hr (maximum the space can support)
   68,000 BTU/Hr (actual amount of BTU/Hr used)

The space in the above example is a confined space because the actual BTU/Hr used is more than the maximum BTU/Hr the space can support. You must provide additional fresh air. Your options are as follows:

A. Rework work sheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms. See *Ventilation Air from Inside Building*, page 8.
B. Vent room directly to the outdoors. See *Ventilation Air from Outdoors*, page 8.
C. Install a lower BTU/Hr fireplace, if lower BTU/Hr size makes room unconfined.

If the actual BTU/Hr used is less than the maximum BTU/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

⚠ WARNING

You must provide additional ventilation air in a confined space.

Continued

AIR FOR COMBUSTION AND VENTILATION

Continued

VENTILATION AIR

Ventilation Air from Inside Building

This fresh air would come from an adjoining unconfined space. When ventilating to an adjoining unconfined space, you must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor on the wall connecting the two spaces (see options 1 and 2, Figure 3). Follow the *National Fuel Gas Code NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation grills or ducts. You can also remove door into adjoining room (see option 3, Figure 3).

⚠ WARNING

Re-calculate work sheet, adding the space of the adjoining unconfined space. The combined spaces must have enough fresh air to supply all appliances in both spaces.

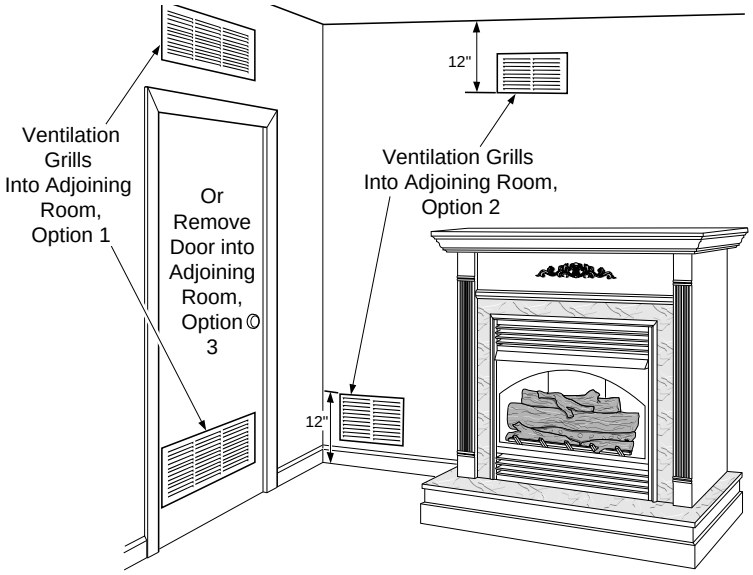


Figure 3 - Ventilation Air from Inside Building

Ventilation Air from Outdoors

Provide extra fresh air by using ventilation grills or ducts. You must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor. Connect these items directly to the outdoors or spaces open to the outdoors. These spaces include attics and crawl spaces. Follow the *National Fuel Gas Code NFPA 54/ ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation grills or ducts. *IMPORTANT:* Do not provide openings for inlet or outlet air into attic if attic has a thermostat-controlled power vent. Heated air entering the attic will activate the power vent.

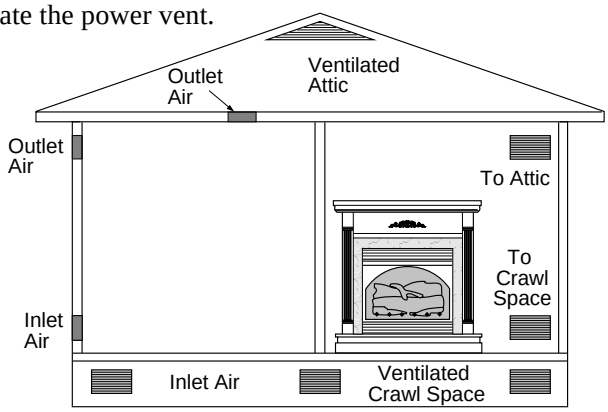


Figure 4 - Ventilation Air from Outdoors

INSTALLING

NOTICE

A qualified service person must install fireplace. Follow all local codes.

⚠ WARNING

Never install the fireplace

- **in a bedroom or bathroom**
- **in a recreational vehicle**
- **where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the fireplace**
- **in high traffic areas**
- **in windy or drafty areas**

⚠ WARNING

This fireplace has a three-prong, grounded electrical plug. This plug helps protect you against electrical shock. Only connect plug to a properly grounded, three-prong receptacle. Do not cut or remove the grounding prong from this plug.

⚠ CAUTION

This fireplace creates warm air currents. These currents move heat to wall surfaces next to fireplace. Installing fireplace next to vinyl or cloth wall coverings or operating fireplace where impurities in the air (such as tobacco smoke) exist, may discolor walls.

IMPORTANT: Vent-free heaters add moisture to the air. Although this is beneficial, installing fireplace in rooms without enough ventilation air may cause mildew to form from too much moisture. See *Air for Combustion and Ventilation,* pages 6 through 8.

IMPORTANT: Make sure the fireplace is level. If fireplace is not level, log set will not work properly. Avoid damage to thermostat bulb. Avoid nicks or sharp bends in thermostat bulb wire. Keep thermostat bulb in mounting bracket.

CHECK GAS TYPE

Use only natural gas. If your gas supply is not natural gas, do not install fireplace. Call dealer where you bought fireplace for proper type fireplace.

ELECTRICAL HOOKUP

This fireplace has a blower assembly with an electrical cord. The electrical cord is five feet in length. You must locate fireplace within reach of a 120 volt grounded electrical outlet. If not, you must install an electrical outlet within reach of fireplace power cord.

Continued

INSTALLING

Continued

ASSEMBLING AND ATTACHING BRASS TRIM

Note: The instructions below show assembling and attaching brass trim to fireplace. You cannot attach the brass trim as described below for built-in installation (see page 13).

1. Remove packaging from three pieces of brass trim.
2. Locate four brass screws, two adjusting plates with set screws, and two shims in the hardware packet.
3. Align shim under adjusting plate as shown in Figure 5.
4. Slide one end of adjusting plate/shim in slot on mitered edge of top brass trim (see Figure 5).
5. Slide other end of adjusting plate/shim in slot on mitered edge of side brass trim (see Figure 5).
6. While firmly holding edges of brass trim together, tighten both set screws on the adjusting plate with slotted screwdriver.
7. Repeat steps 1 through 6 for other side.

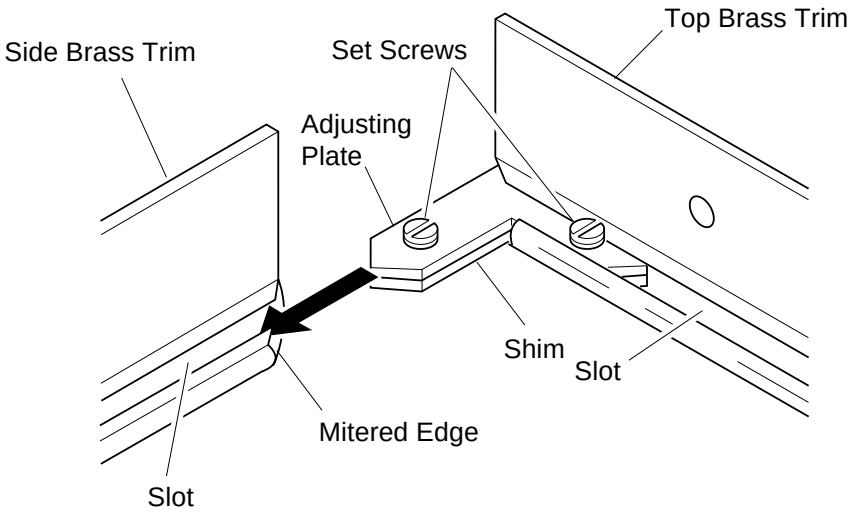


Figure 5 - Assembling Brass Trim

8. Place the assembled trim onto fireplace cabinet. Attach to fireplace with brass screws included in hardware package (see Figure 6).

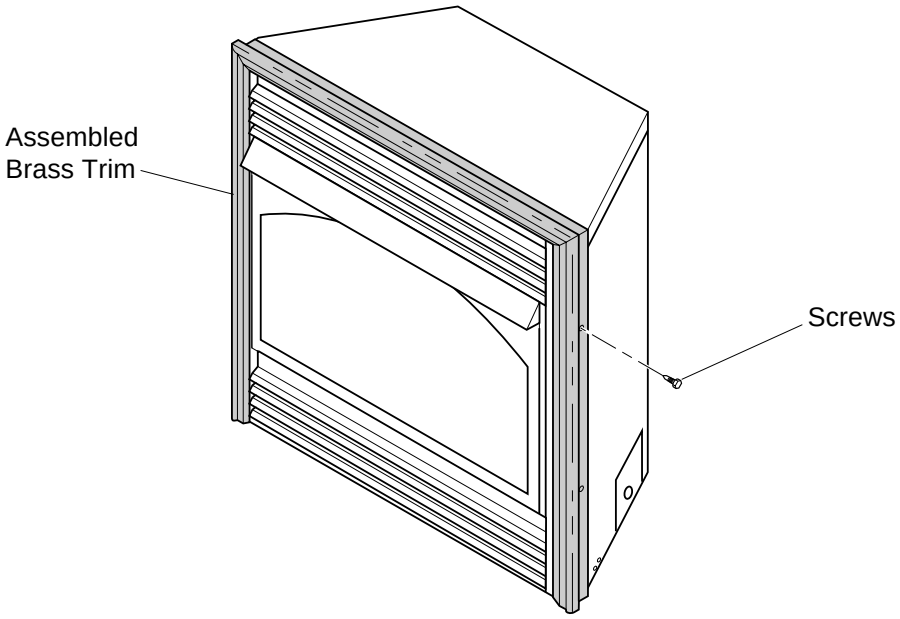


Figure 6 - Attaching Brass Trim to Fireplace

INSTALLING

Continued

INSTALLATION CLEARANCES

⚠ WARNING

Maintain the minimum clearances. If you can, provide greater clearances from floor, ceiling, and adjoining wall.

Carefully follow the instructions below. This will ensure safe installation.

Minimum Wall and Ceiling Clearances (see Figure 7)

A. Clearances from the side of the fireplace opening to any combustible wall should not be less than 16 inches for a standard mantel or 12 inches for a corner installation.

B. Clearances from the top of the fireplace opening to the ceiling should not be less than 42 inches.

Note: Clearances are the same if using optional cabinet mantel or built-in installation.

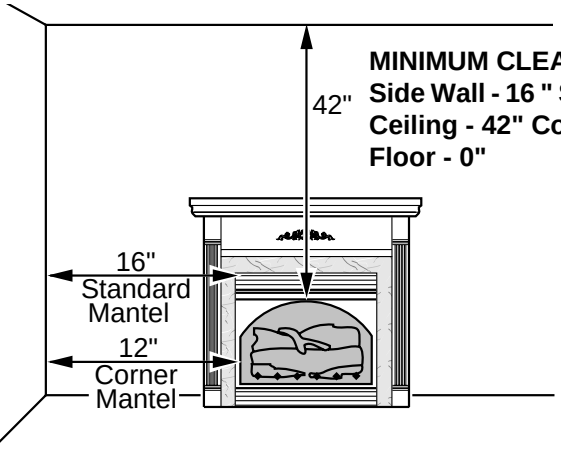


Figure 7 - Minimum Clearance to Wall and Ceiling

CONVENTIONAL FIREPLACE INSTALLATION

Conventional installation of this fireplace involves installing fireplace along with the corner mantel accessory or cabinet mantel with hearth base accessories against a wall in your home. Follow the instructions below to install the fireplace in this manner.

⚠ WARNING

For conventional installation, it is recommended you use the cabinet mantel, corner mantel, or hearth base specified in this manual. Surface clearances may not be sufficient with other cabinet mantels and hearth bases. This may create a fire hazard. See *Accessories,* pages 32 and 33 for correct cabinet mantel and hearth base.

Note: The instructions below show installation using the cabinet mantel and hearth base accessories. The hearth base accessory is optional for this installation. You can install fireplace and cabinet mantel directly on the floor. The corner mantel accessory cannot be installed with hearth base. You must install corner mantel directly on the floor.

1. Assemble cabinet mantel, hearth base, and trim accessories. Assembly instructions are included with each accessory.
2. Install a properly grounded, 120 volt three-prong electrical outlet at fireplace location if an outlet is not there. If possible, locate outlet so cabinet mantel will cover it when installed (see Figure 8, page 12).

Continued

INSTALLING

Continued

3. Install gas piping to fireplace location. This installation includes an approved flexible gas line (if allowed by local codes) after the manual shutoff valve. The flexible gas line must be the last item installed on the gas piping. See *Installing Gas Piping to Fireplace Location*, page 16.
4. Place hearth base accessory against wall at installation location. Cut an access hole in hearth top to run flexible gas line to fireplace (see Figure 8). Make sure to locate access hole so cabinet mantel will cover it when installed. *Note:* You can secure base to floor using wood screws. Countersink screw heads and putty over.

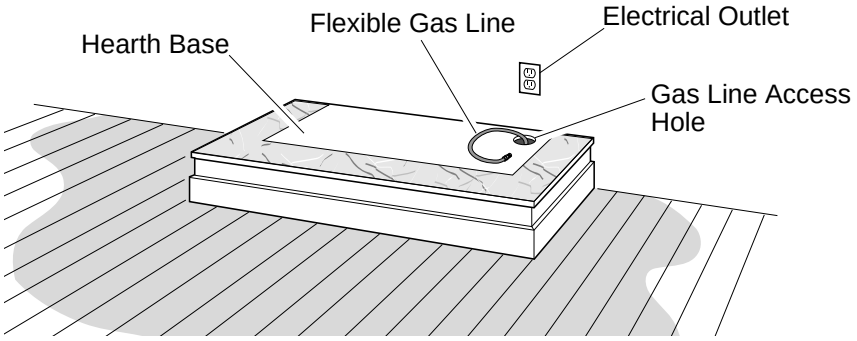


Figure 8 - Placing Hearth Base Accessory Against Wall

5. Route flexible gas line through access hole in hearth base.
6. Center cabinet mantel on hearth base (see Figure 9). Make sure mantel is flush against wall.

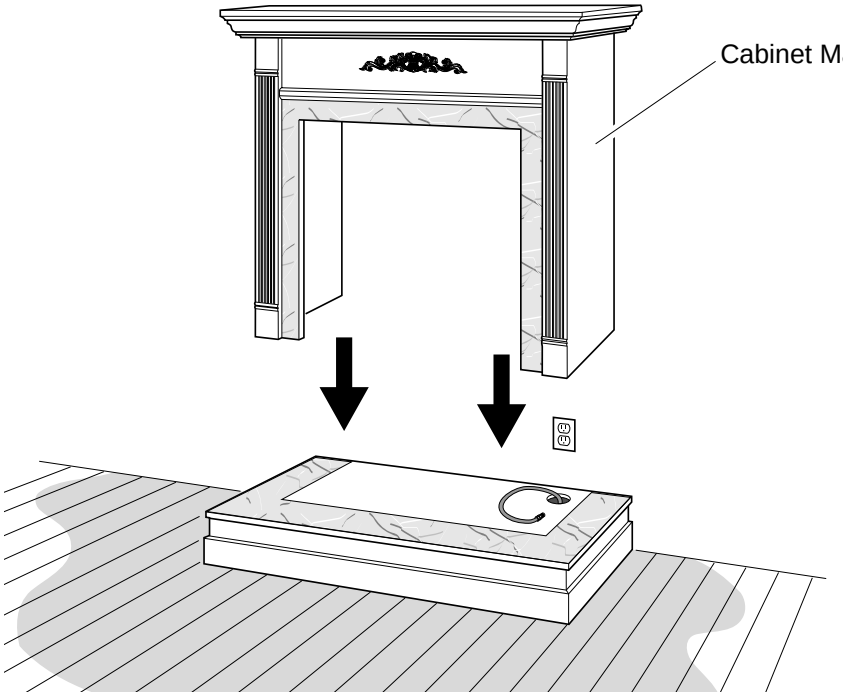


Figure 9 - Installing Cabinet Mantel

7. Place cardboard or other protective material on top of hearth base. Carefully set fireplace on protective material, with back of fireplace inside mantel opening.
8. Attach flexible gas line to fireplace gas regulator. See *Connecting Fireplace to Gas Supply*, page 17.

INSTALLING

Continued

9. Route blower electrical cord through side or rear access door of fireplace. Plug electrical cord into electrical outlet.
10. Carefully insert fireplace into cabinet mantel. Be careful not to scratch or damage hearth base, cabinet mantel, or any laminate trim on hearth base. Remove protective material from top of hearth base and from front of fireplace (if any). *Note:* You can secure fireplace to hearth or floor. Open lower louver. Locate screw holes in bottom of base. Tighten wood screws through these holes and into hearth or floor.
11. Check all gas connections for leaks. See *Checking Gas Connections,* page 18.

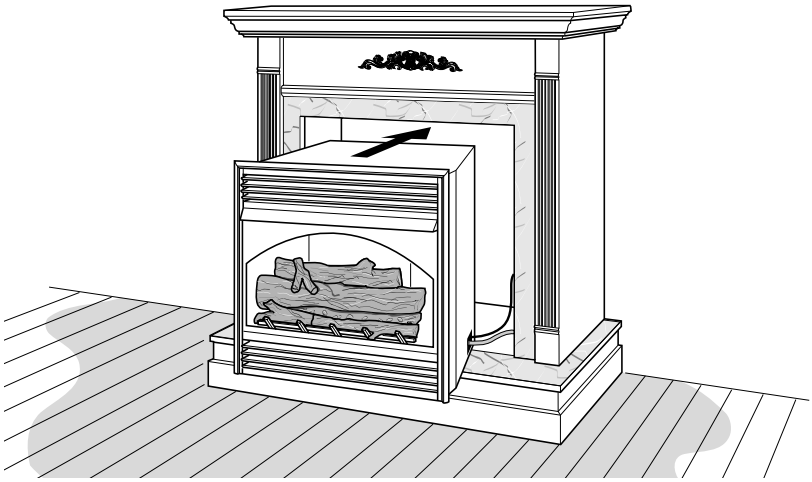


Figure 10 - Inserting Fireplace Into Cabinet Mantel

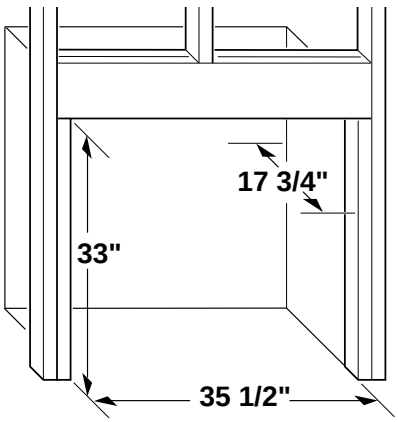
BUILT-IN FIREPLACE INSTALLATION

Built-in installation of this fireplace involves installing fireplace into a framed-in enclosure. This makes the front of fireplace flush with wall. If installing a mantel above the fireplace, but you must follow the clearances shown in Figure 15, page 15. Follow the instructions below to install the fireplace in this manner.

IMPORTANT: For built-in installation, nailing flange accessory G3004 is required. Do not attach brass trim to fireplace for built-in installation.

Height		Front Width		Depth	
Actual	Framing	Actual	Framing	Actual	Framing
32 3/8"	33"	34 5/16"	35 1/2"	16 11/16"	17 3/4"

1. Frame in rough opening. Use dimensions shown in Figure 11 for the rough opening.



Continued

Figure 11 - Rough Opening for Installing in Wall

INSTALLING

Continued

If installing in a corner, use dimensions shown in Figure 12 for the rough opening. The height is 33" which is the same as the wall opening on page 13.

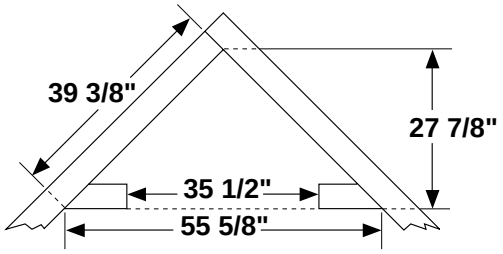


Figure 12 - Rough Opening for Installing in Corner

2. Install a properly grounded, 120 volt three-prong electrical outlet at fireplace location. Locate outlet inside the framed enclosure.
3. Install gas piping to fireplace location. This installation includes an approved flexible gas line (if allowed by local codes) after the manual shutoff valve. The flexible gas line must be the last item installed on the gas piping. See *Installing Gas Piping to Fireplace Location*, page 16.
4. Attach nailing flange accessory to each side of fireplace (see Figure 13). See *Accessories*, page 33 for nailing flange.

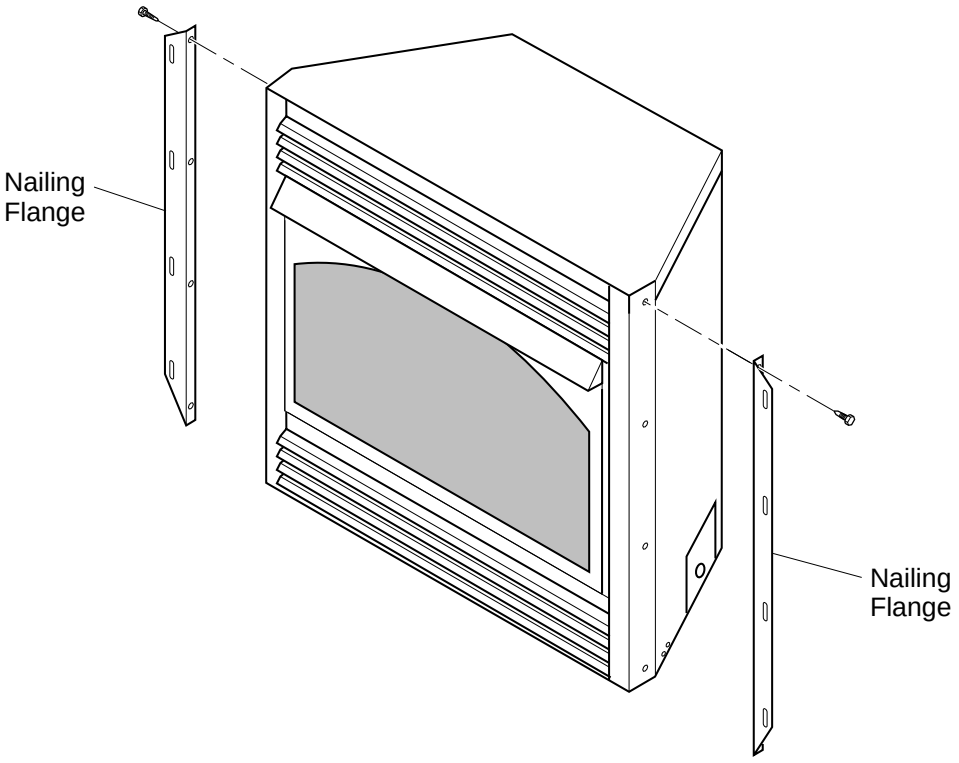


Figure 13 - Attaching Nailing Flange Accessory

5. Carefully set fireplace in front of rough opening with back of fireplace inside wall opening.
6. Attach flexible gas line to fireplace gas regulator. See *Connecting Fireplace to Gas Supply*, page 17.

INSTALLING

Continued

7. Route blower electrical cord through side or rear access door of fireplace. Plug electrical cord into electrical outlet.
8. Carefully insert fireplace into rough opening.
9. Attach fireplace to wall studs using nails or wood screws through holes in nailing flange (see Figure 14).
10. Check all gas connections for leaks. See *Checking Gas Connections,* page 18.

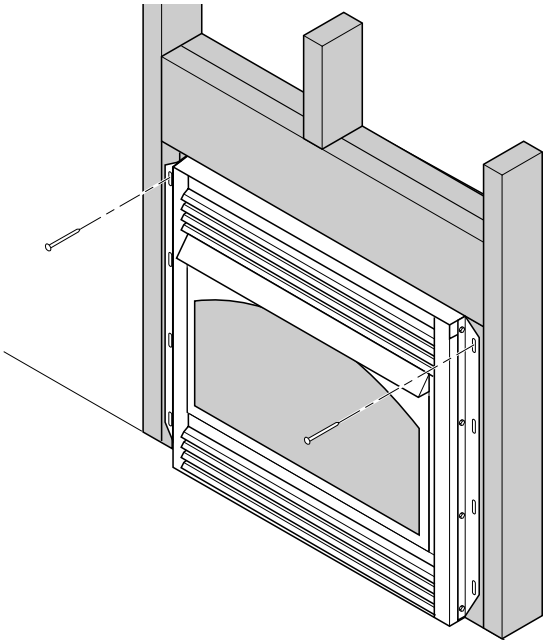


Figure 14 - Attaching Nailing Flange Accessory

Mantel Clearances for Built-In Installation

If placing mantel above built-in fireplace, you must meet minimum clearance between mantel shelf and top of fireplace opening.

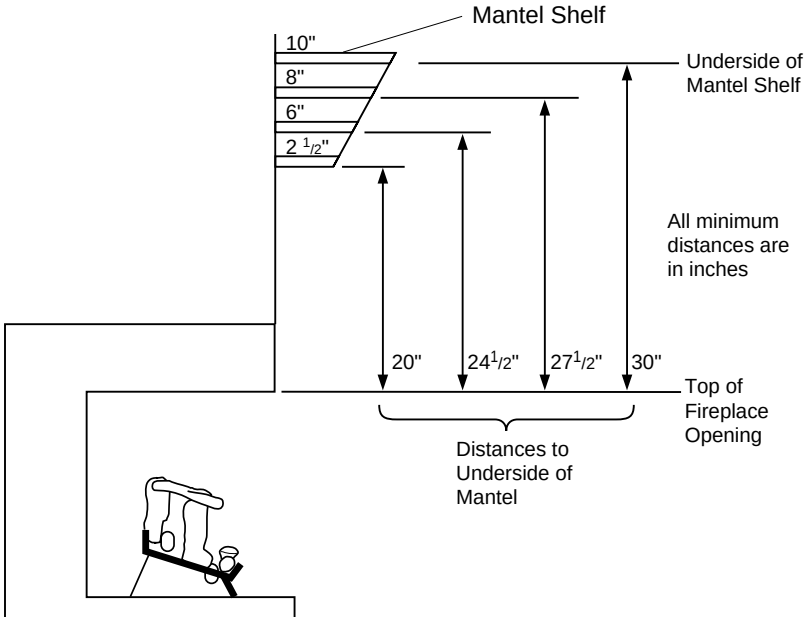


Figure 15 - Minimum Mantel Clearances for Built-In Installation

If your installation does not meet the above minimum clearances, you must:

- raise the mantel to an acceptable height, OR
- remove the mantel.

Continued

INSTALLING

Continued

INSTALLING GAS PIPING TO FIREPLACE LOCATION

NOTICE

A qualified service person must connect fireplace to gas supply. Follow all local codes.

Installation Items Needed

Before installing fireplace, make sure you have the items listed below.

- piping (check local codes)
- sealant (resistant to propane gas)
- manual shutoff valve *
- test gauge connection *
- sediment trap
- tee joint
- pipe wrench
- approved flexible gas line with gas connector (if allowed by local codes) (not provided)

* An A.G.A. design-certified manual shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the optional A.G.A. design-certified manual shutoff valve from your dealer. See *Accessories*, page 32.

⚠ WARNING

Never connect fireplace to private (non-utility) gas wells. This gas is commonly known as well-head gas.

⚠ CAUTION

Use only new, black iron or steel pipe. Internally-tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of 1/2" diameter or greater to allow proper gas volume to fireplace. If pipe is too small, undue loss of pressure will occur.

Installation must include a manual shutoff valve, union, and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from fireplace (see Figure 16, page 17).

Check your building codes for any special requirements for locating manual shutoff valve to fireplaces.

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged fireplace valves.

⚠ CAUTION

Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.

Install sediment trap in supply line as shown in Figure 16, page 17. Locate sediment trap where it is within reach for cleaning. Locate sediment trap where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into fireplace gas controls. If sediment trap is not installed or is installed wrong, fireplace may not run properly.

INSTALLING

Continued

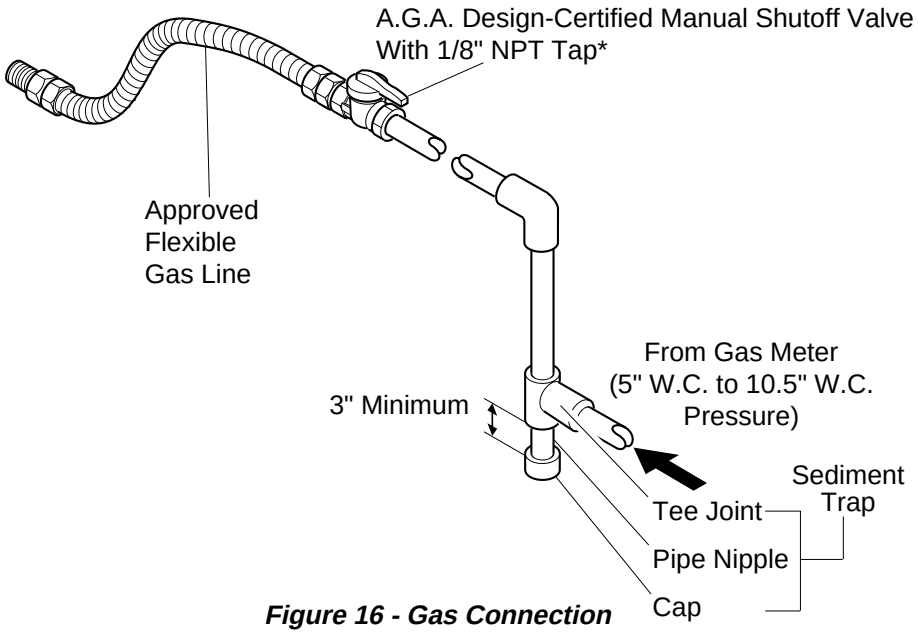


Figure 16 - Gas Connection

* Purchase the optional A.G.A. design-certified manual shutoff valve from your dealer. See *Accessories,* page 32.

CONNECTING FIREPLACE TO GAS SUPPLY

Installation Items Needed

- 5/16" hex socket wrench or nut-driver
- Phillips screwdriver
- sealant (resistant to propane gas, not provided)

1. Remove fireplace screen. Remove two screws that hold fireplace screen in place for shipping. These screws are located near top of screen. Discard screws. Lift fireplace screen up and pull out to remove.
2. Remove access door from rear or side of fireplace. See *Product Identification,* page 4, for access door locations.
3. Remove screws that attach log base assembly to fireplace (see Figure 17). Carefully lift up log base assembly and remove from fireplace (see Figure 17).

⚠ CAUTION

Do not pick up log base assembly by burners. This could damage burners. Only handle base by grates.

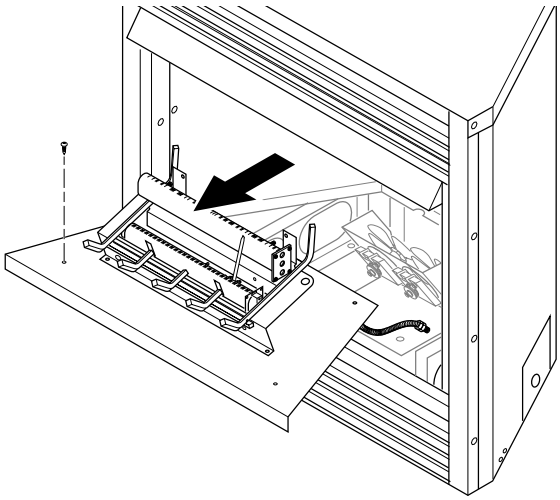


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Figure 17 - Removing Log Base Assembly From Fireplace

INSTALLING

Continued

4. Route flexible gas line from manual shutoff valve into fireplace through side or rear access panel. Route flexible gas supply line through fireplace access door.

NOTICE

Most building codes do not permit concealed gas connections. A flexible gas line is provided to allow accessibility from the fireplace. The flexible gas supply line connection to the manual shutoff valve should be accessible.

5. Apply pipe joint sealant lightly to male threads of gas connector attached to flexible gas line (see Figure 18). Connect flexible gas line to flexible gas line attached to gas regulator of fireplace (see Figure 18).
6. Check all gas connections for leaks. See *Checking Gas Connections,* below.
7. Replace log base assembly back into fireplace. Feed flexible gas line into fireplace base area while replacing log base assembly. Make sure the entire flexible gas line is in fireplace base area. Reattach log base assembly to fireplace with screws removed in step 3.

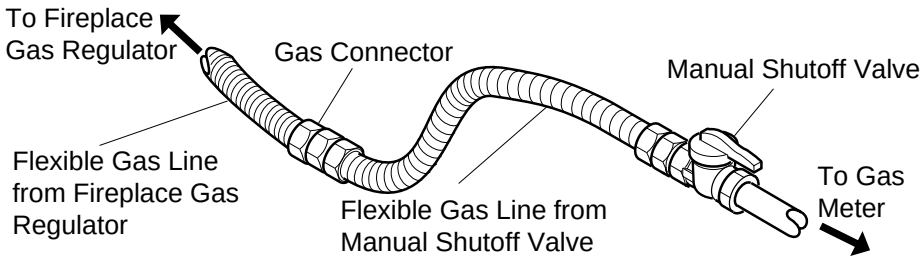


Figure 18 - Attaching Flexible Gas Lines Together

CHECKING GAS CONNECTIONS

⚠ WARNING

Test all gas piping and connections for leaks after installing or servicing. Correct all leaks at once.

⚠ WARNING

Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

Pressure Testing Gas Supply Piping System

Test Pressures In Excess Of 1/2 PSIG

1. Disconnect fireplace and its individual manual shutoff valve from gas supply piping system. Pressures in excess of 1/2 psig will damage fireplace gas regulator.
2. Cap off open end of gas pipe where manual shutoff valve was connected.
3. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
4. Check all joints of gas supply piping system. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks at once.
6. Re-connect fireplace and manual shutoff valve to gas supply. Check re-connected fittings for leaks.

INSTALLING

Continued

Test Pressures Equal To or Less Than 1/2 PSIG

1. Close manual shutoff valve (see Figure 19).
2. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
3. Check all joints from gas meter to manual shutoff valve (see Figure 20). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
4. Correct all leaks at once.

Pressure Testing Fireplace Gas Connections

1. Open manual shutoff valve (see Figure 19).
2. Open main gas valve located on or near gas meter.
3. Make sure control knob of fireplace is in the OFF position.
4. Check all joints from manual shutoff valve to thermostat gas valve (see Figure 20). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks at once.
6. Light fireplace (see *Operating Fireplace*, pages 22 through 24). Check all other internal joints for leaks.
7. Turn off fireplace (see *To Turn Off Gas to Appliance*, page 24).

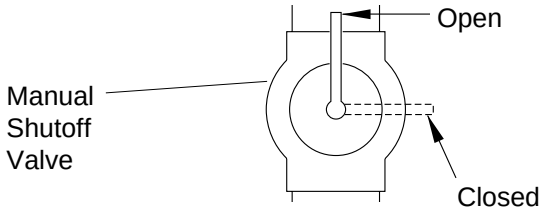


Figure 19 - Manual Shutoff Valve

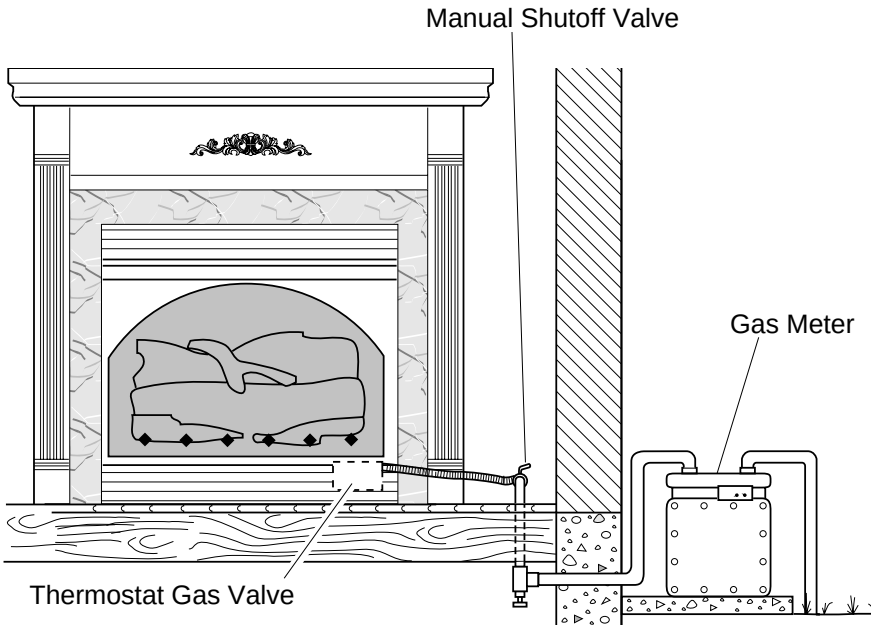


Figure 20 - Checking Gas Joints

Continued

INSTALLING

Continued

INSTALLING LOGS

⚠ WARNING

Do not add extra logs or ornaments such as pine cones, vermiculite, or rock wool. Using these added items can cause sooting.

Do not add lava rock around base. Rock and debris could fall into the control area of fireplace.

Each log is marked with a number. These numbers will help you identify the log when installing. It is very important to install these logs exactly as instructed. Do not modify logs. Only use logs supplied with fireplace.

1. Slide rear log (#1) into place behind rear burner (see Figure 21).

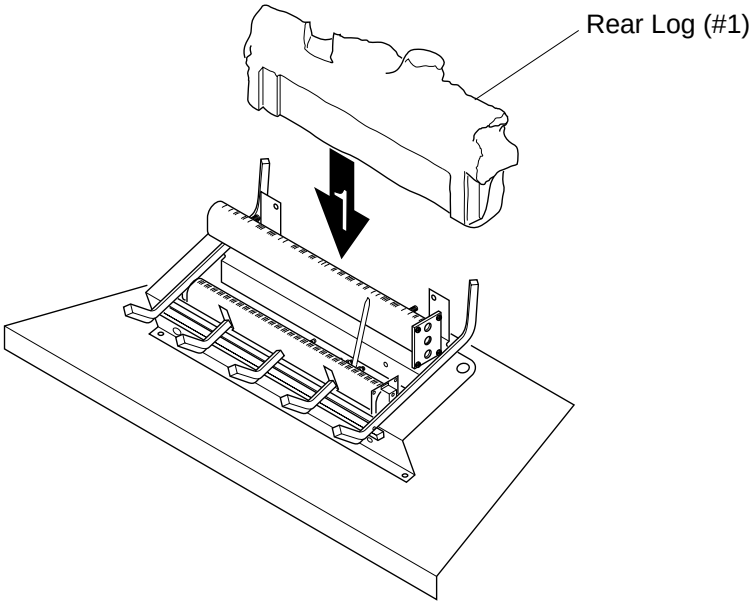


Figure 21 - Installing Rear Log

2. Slide front log (#2) into place behind front burner. Make sure tabs at bottom of log are behind front burner (see Figure 22).

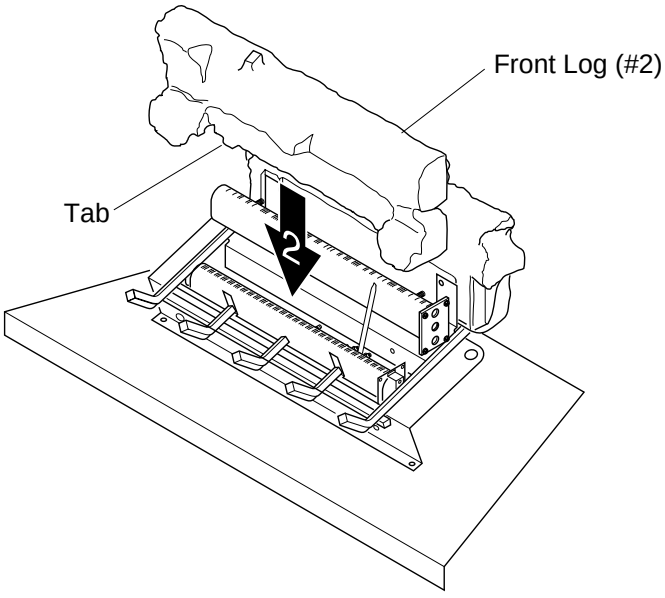


Figure 22 - Installing Front Log

INSTALLING

Continued

3. Place crossover log (#3) into place (see Figure 23). Be sure to place back of crossover log into notch on left side of rear log. The indentation under front left fork of crossover log must rest on rectangular knob of front log.

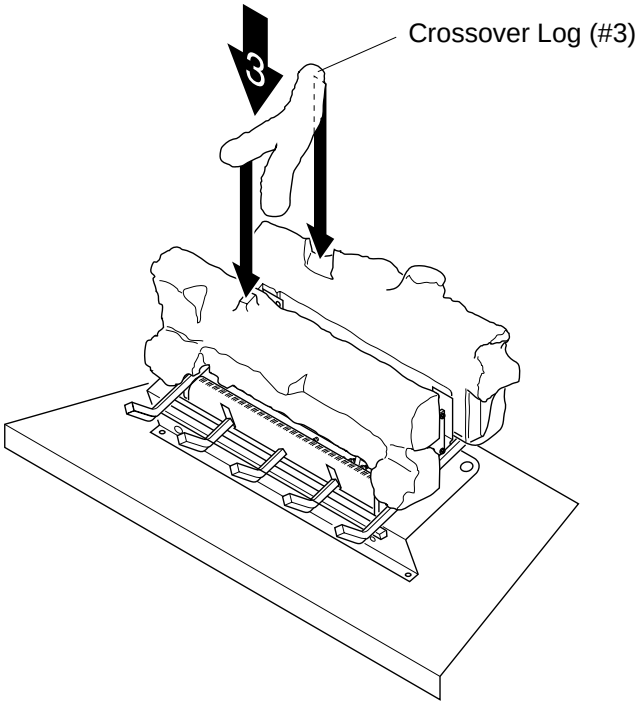


Figure 23 - Installing Crossover Log

4. Place left front branch (#4) and right front branch (#5) into place (see Figure 24). Make sure notches on bottom rest on grates.

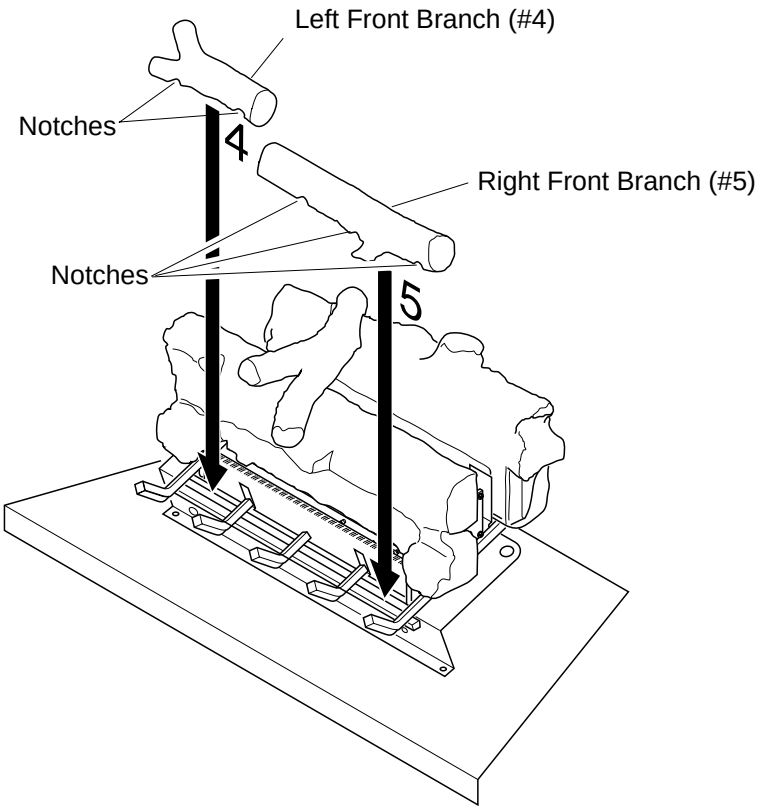


Figure 24 - Installing Left Front Branch and Right Front Branch

Continued

INSTALLING

Continued

⚠ WARNING

You must operate this fireplace with the fireplace screen in place. Make sure fireplace screen is in place before running fireplace.

5. Install fireplace screen by slipping notches of fireplace screen over screws on front of fireplace (see Figure 25).

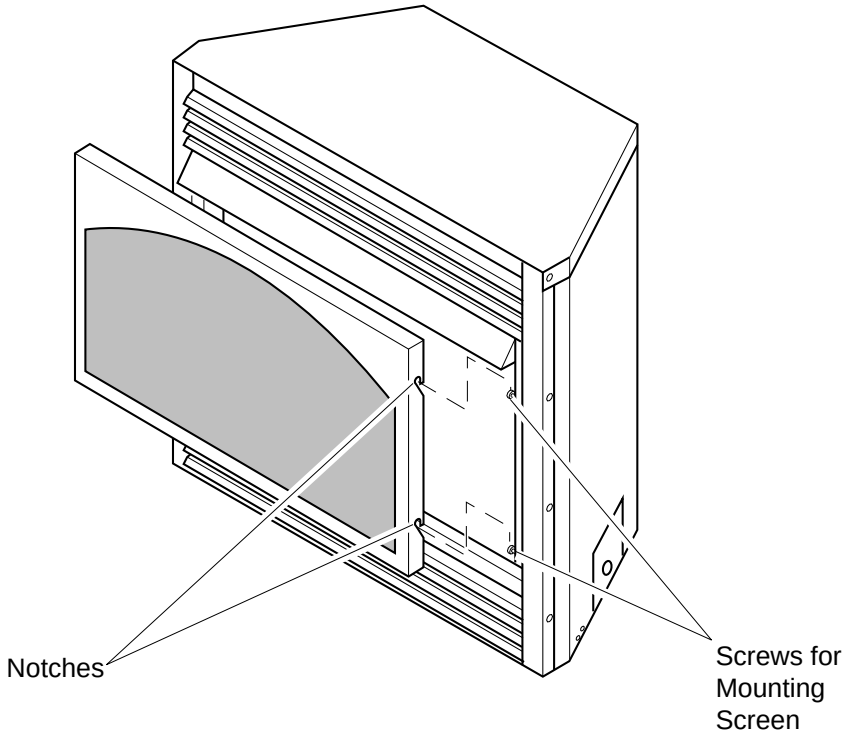


Figure 25 - Installing Fireplace Screen

OPERATING FIREPLACE

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 has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

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.
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 gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

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 or gas supplier. 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 FIREPLACE

Continued

LIGHTING INSTRUCTIONS

⚠ WARNING

You must operate this fireplace with the fireplace screen in place. Make sure fireplace screen is installed before running fireplace.

NOTICE

During initial operation of new fireplace, burning logs will give off a paper-burning smell. Orange flame will also be present. Open window to vent smell. Operate fireplace on HI position to burn off odor. This will only last a few hours.

1. **STOP! Read the safety information on page 22.**
2. **Make sure manual shutoff valve is fully open.**
3. **Turn control knob clockwise ↷ to the OFF position.**

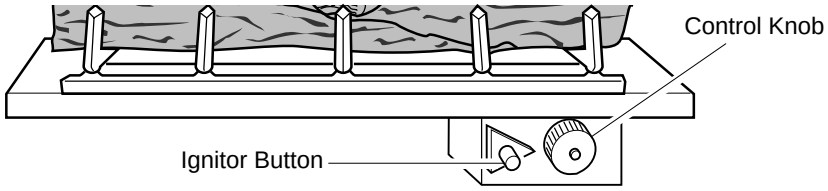


Figure 26 - Control Knob and Ignitor Button Location

4. **Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to the next step.**
5. **Turn control knob counterclockwise ↶ to the PILOT position. Press in control knob for five (5) seconds (see Figure 26, above).**

   Note: **If running fireplace for first time, there will be air in gas line. You may need to press in control knob for 30 seconds or longer. This will allow air to bleed from the gas system.**
6. **Continue pressing control knob in. Press and release ignitor button. This will light pilot. The pilot is attached to the front burner. If needed, keep pressing ignitor button until pilot lights.**

   Note: **If pilot does not stay lit, contact a qualified service person or gas supplier for repairs. Until repairs are made, light pilot with match. To light pilot with match, see *Manual Lighting Procedure*, page 24.**
7. **Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.**

   Note: **If pilot goes out, repeat steps 3 through 7. This fireplace has a safety interlock system. Wait one (1) minute for system to reset before lighting pilot again.**
   - **If control knob does not pop out when released, contact a qualified service person or gas supplier for repairs.**

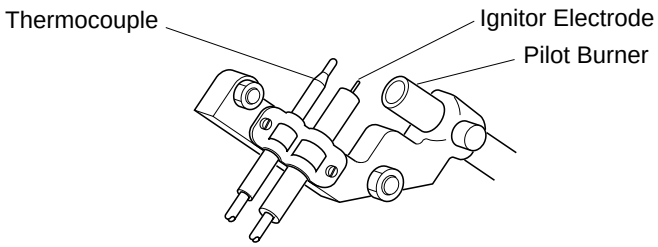


Figure 27 - Pilot

Continued

OPERATING FIREPLACE

Continued

8. **Turn control knob counterclockwise to desired heating level. The burners should light. Set control knob to any heat level between HI and LO.**

> **⚠ CAUTION**
>
> **Do not try to adjust heating levels by using the manual shutoff valve.**

BLOWER OPERATION

> **⚠ WARNING**
>
> **This fireplace has a three-prong, grounded electrical plug. This plug helps protect you against electrical shock. Only connect plug to a properly grounded, three-prong receptacle. Do not cut or remove the grounding prong from this plug.**

Locate the blower switch by opening lower louver on fireplace. Blower switch is located at lower left inside louver door. The thermostat-controlled blower has three settings: ON, OFF, and AUTO. In the ON position, the blower will operate constantly. In the OFF position, the blower will not operate. In the AUTO position, the blower will start when the thermostat senses a sufficient increase in firebox temperature.

Note: **Your gas logs and blower will not turn on and off at the same time. The fireplace may run for several minutes before the blower turns on. After the heater modulates to the pilot position, the blower will continue to run. The blower will shut off after the firebox temperature decreases.**

TO TURN OFF GAS TO APPLIANCE

Shutting Off Fireplace

Turn control knob clockwise to the OFF position.

Shutting Off Burners Only (pilot stays lit)

Turn control knob clockwise to the PILOT position.

THERMOSTAT CONTROL OPERATION

You can set the thermostat control knob to any comfort level between HI and LO. The thermostat will gradually modulate the heat output and flame height from HI to lower settings, or pilot, in order to maintain the comfort level you select. The ideal comfort setting will vary by household depending upon the amount of space to be heated, the output of the central heating system, etc.

MANUAL LIGHTING PROCEDURE

1. **Follow steps 1 through 5 under *Lighting Instructions*, page 23.**
2. **Depress control knob and light pilot with match.**
3. **Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob. Now follow step 8, above.**

INSPECTING BURNERS

Check pilot flame pattern and burner flame patterns often.

PILOT FLAME PATTERN

Figure 28 shows a correct pilot flame pattern. Figure 29 shows an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool. When the thermocouple cools, the fireplace will shut down.

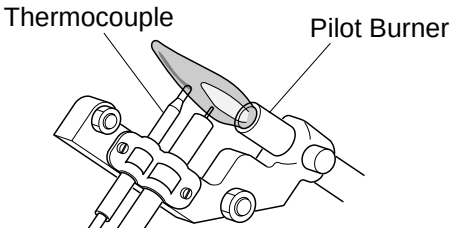


Figure 28 - Correct Pilot Flame Pattern

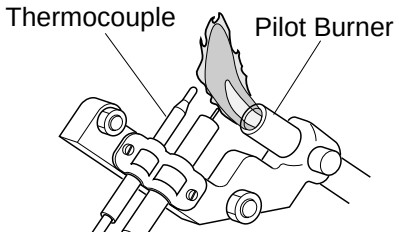


Figure 29 - Incorrect Pilot Flame Pattern

If pilot flame pattern is incorrect, as shown in Figure 29

- turn fireplace off (see *To Turn Off Gas to Appliance*, page 24)
- see *Troubleshooting*, pages 26 through 30

FRONT BURNER FLAME PATTERN

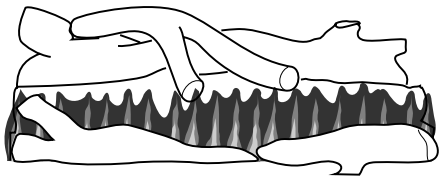
Figure 30 shows correct front burner flame pattern. Figure 31 shows incorrect front burner flame pattern. The incorrect burner flame pattern shows yellow tipping at top of blue flame.

⚠ WARNING

If front burner flame pattern shows yellow tipping, your fireplace could produce increased levels of carbon monoxide. Follow instructions at bottom of this page. Yellow flame on rear burner is normal.

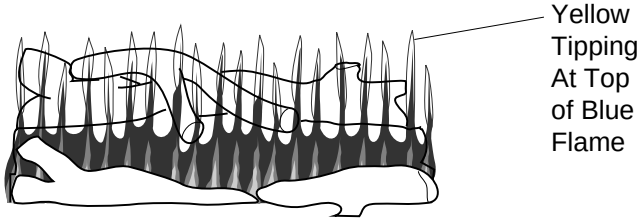
NOTICE

Do not mistake orange flames with yellow tipping. Dirt or other fine particles are burned by fireplace, causing brief patches of orange flame.



CORRECT FLAME PATTERN AT HIGH POSITION

Figure 30 - Correct Front Burner Flame Pattern



INCORRECT FLAME PATTERN AT HIGH POSITION

Figure 31 - Incorrect Front Burner Flame Pattern

If front burner flame pattern is incorrect, as shown in Figure 31

- turn fireplace off (see *To Turn Off Gas to Appliance*, page 24
- see *Troubleshooting*, pages 26 through 30

CLEANING AND MAINTENANCE

⚠ WARNING

Turn off fireplace and blower and let cool before cleaning.

⚠ CAUTION

You must keep control areas, burners, and circulating air passageways of fireplace clean. Inspect these areas of fireplace before each use. Have fireplace inspected yearly by a qualified service person. Fireplace may need more frequent cleaning due to excessive lint from carpeting, bedding material, etc.

ODS/PILOT AND BURNERS

- Use a vacuum cleaner or small, soft bristled brush to clean.

LOGS

- If you remove logs for cleaning, refer to *Installing Logs,* pages 20 and 21, to properly replace logs.
- Replace log(s) if broken or chipped (dime-sized or larger).

TROUBLE-SHOOTING

Note: All troubleshooting items are listed in order of operation.

⚠ WARNING

Turn off and unplug fireplace and let cool before servicing. Only a qualified service person should service and repair fireplace.

⚠ CAUTION

Never use a wire, needle, or similar object to clean ODS/pilot. This can damage ODS/pilot unit.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is no spark at ODS/pilot	1. Ignitor electrode positioned wrong	1. Replace ignitor
	2. Ignitor electrode broken	2. Replace ignitor
	3. Ignitor electrode not connected to ignitor cable	3. Reconnect ignitor cable
	4. Ignitor cable pinched or wet	4. Free ignitor cable if pinched by any metal or tubing. Keep ignitor cable dry
	5. Piezo ignitor nut is loose	5. Tighten nut holding piezo ignitor to base panel of log set. Nut is located behind base panel.
	6. Broken ignitor cable	6. Replace ignitor cable
	7. Bad piezo ignitor	7. Replace piezo ignitor

TROUBLE-SHOOTING

Continued

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is spark at ODS/pilot but no ignition	1. Gas supply turned off or manual shutoff valve closed	1. Turn on gas supply or open manual shutoff valve
	2. Control knob not in PILOT position	2. Turn control knob to PILOT position
	3. Control knob not pressed in while in PILOT position	3. Press in control knob while in PILOT position
	4. Air in gas lines when installed	4. Continue holding down control knob. Repeat igniting operation until air is removed
	5. ODS/pilot is clogged	5. Clean ODS/pilot (see *Cleaning and Maintenance*, page 26) or replace ODS/pilot assembly
	6. Gas regulator setting is not correct	6. Replace gas regulator
ODS/pilot lights but flame goes out when control knob is released	1. Control knob not fully pressed in	1. Press in control knob fully
	2. Control knob not pressed in long enough	2. After ODS/pilot lights, keep control knob pressed in 30 seconds
	3. Safety interlock system has been triggered	3. Wait one minute for safety interlock system to reset. Repeat ignition operation
	4. Manual shutoff valve not fully open	4. Fully open manual shutoff valve
	5. Thermocouple connection loose at control valve	5. Hand tighten until snug, then tighten 1/4 turn more
	6. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by one or both of the following: A) Low gas pressure B) Dirty or partially clogged ODS/pilot	6. A) Contact local natural gas company B) Clean ODS/pilot (see *Cleaning and Maintenance*, page 26) or replace ODS/pilot assembly
	7. Thermocouple damaged	7. Replace thermocouple
	8. Control valve damaged	8. Replace control valve

Continued

TROUBLE-SHOOTING

Continued

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
One or both burners do not light after ODS/pilot is lit	1. Burner orifice(s) clogged	1. Clean burner(s) (see *Cleaning and Maintenance*, page 26) or replace burner orifice(s)
	2. Burner orifice(s) diameter is too small	2. Replace burner orifice(s)
	3. Inlet gas pressure is too low	3. Contact local natural gas company
	4. Mislocated crossover tube	4. Contact qualified service person
Delayed ignition of one or both burners	1. Manifold pressure is too low	1. Contact local natural gas company
	2. Burner orifice(s) clogged	2. Clean burner(s) (see *Cleaning and Maintenance*, page 26) or replace burner orifice(s)
	3. Mislocated crossover tube	3. Contact qualified service person
Burner backfiring during combustion	1. Burner orifice is clogged or damaged	1. Clean burner (see *Cleaning and Maintenance*, page 26) or replace burner orifice
	2. Damaged burner	2. Replace damaged burner
	3. Gas regulator defective	3. Replace gas regulator
Yellow flame in front burner during burner combustion	1. Not enough air	1. Check burner(s) for dirt and debris. If found, clean burner(s) (see *Cleaning and Maintenance*, page 26)
	2. Gas regulator defective	2. Replace gas regulator
Slight smoke or odor during initial operation	1. Residues from manufacturing processes and logs curing	1. Problem will stop after a few hours of operation
Fireplace produces a whistling noise when burners are lit	1. Turning control knob to HI position when burners are cold	1. Turn control knob to LO position and let warm up for a minute
	2. Air in gas line	2. Operate burners until air is removed from line. Have gas line checked by local natural gas company
	3. Air passageways on fireplace blocked	3. Observe minimum installation clearances (see page 11)
	4. Dirty or partially clogged burner orifice(s)	4. Clean burners (see *Cleaning and Maintenance*, page 26) or replace burner orifice(s)

TROUBLE-SHOOTING

Continued

⚠ WARNING

If you smell gas

- **Shut off gas supply.**
- **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.**

IMPORTANT: Operating fireplace where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors. These odors will disappear over time.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Fireplace produces a clicking/ticking noise just after burners are lit or shut off	1. Metal expanding while heating or contracting while cooling	1. This is common with most fireplaces. If noise is excessive, contact qualified service person
Fireplace produces unwanted odors	1. Fireplace burning vapors from paint, hair spray, glues, cleaners, chemicals, new carpet, etc. (See *IMPORTANT* statement above)	1. Open window and ventilate room. Stop using odor causing products while fireplace is running
	2. Gas leak. **See Warning statement at top of page**	2. Locate and correct all leaks (see *Checking Gas Connections*, page 18)
Fireplace shuts off in use (ODS operates)	1. Not enough fresh air is available	1. Open window and/or door for ventilation
	2. Low line pressure	2. Contact local natural gas company
	3. ODS/pilot is partially clogged	3. Clean ODS/pilot (see *Cleaning and Maintenance*, page 26)
Gas odor even when control knob is in OFF position	1. Gas leak. **See Warning statement at top of page**	1. Locate and correct all leaks (see *Checking Gas Connections*, page 18)
	2. Control valve defective	2. Replace control valve

Continued

TROUBLE-SHOOTING *Continued*

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Gas odor during combustion	1. Foreign matter between control valve and burner 2. Gas leak. **See Warning statement at top of page 29**	1. Take apart gas tubing and remove foreign matter 2. Locate and correct all leaks (see *Checking Gas Connections*, page 18)
Blower does not work	1. Blower power cord not plugged into electrical outlet 2. Loose wire nuts on motor leads 3. Defective blower switch	1. Plug power cord into 120V grounded outlet 2. Check wire connections of motor leads. Tighten if loose 3. Replace blower switch
Blower fans turning slowly	1. Motor leads not wired properly	1. Wire motor leads properly. See *Wiring Diagram*, page 31

TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

SERVICE HINTS

When gas pressure is too low

- pilot will not stay lit
- burners will have delayed ignition
- fireplace will not produce specified heat

When gas quality is bad

- pilot will not stay lit
- burners will produce flames and soot
- fireplace will backfire when lit

You may feel your gas pressure is too low or gas quality is bad. If so, contact your local natural gas supplier.

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

Parts Under Warranty

Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

When calling DESA International, have ready

- your name
- your address
- model number of your fireplace
- how fireplace was malfunctioning
- type of gas used (propane or natural gas)
- purchase date

Usually, we will ask you to return the defective part to the factory.

Parts Not Under Warranty

Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA International's Parts Department at 1-800-972-7879 for information.

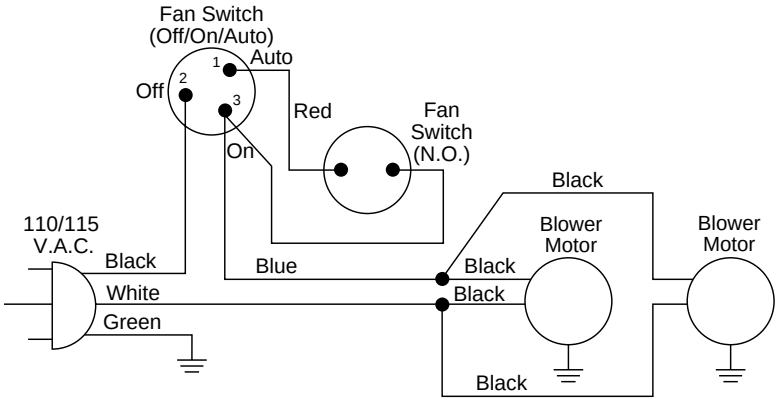
When calling DESA International, have ready

- model number of your fireplace
- the replacement part number

SPECIFICATIONS

BTU (Variable)	20,000/28,000
Type Gas	Natural Gas Only
Ignition	Piezo
Pressure Regulator Setting	3.5" W.C.
Inlet Gas Pressure (in. of water)	
Maximum	10.5"
Minimum	5"
Shipping Weight	92 lbs.

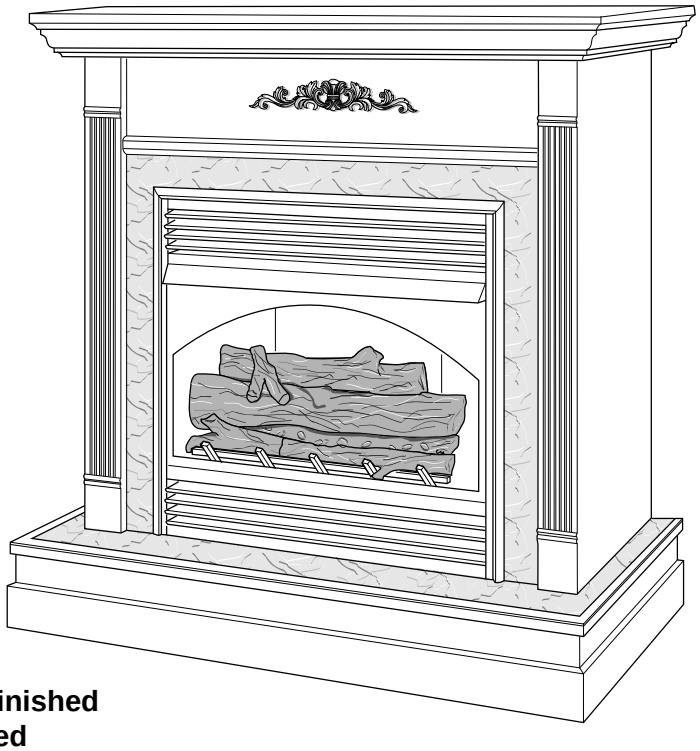
WIRING DIAGRAM



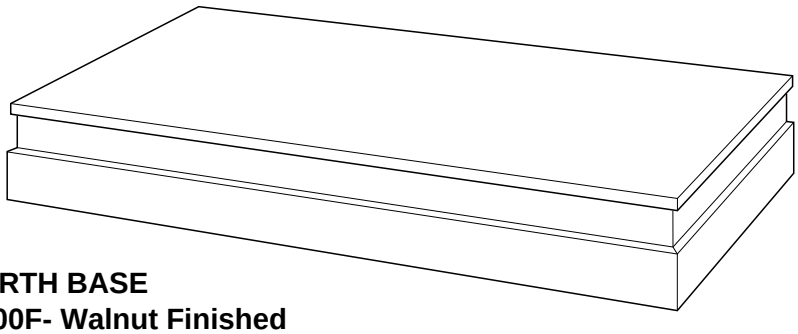
CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

ACCESSORIES

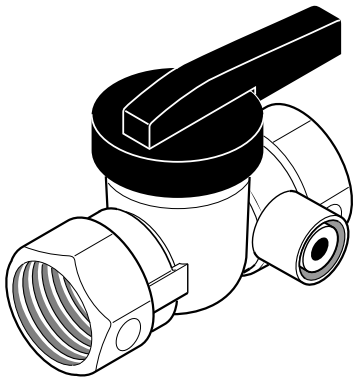
Purchase these fireplace accessories from your local dealer. If they can not supply these accessories, call DESA International's Sales Department at 1-800-432-2382 for information. You can also write to the address listed on the back page of this manual.



CABINET MANTEL
GM100F - Walnut Finished
GM101U - Unfinished
Shown with optional base and laminate hearth and mantel trim accessories. Dimensions (HxWxD): 56-7/8" x 48-3/4" x 20-7/8"

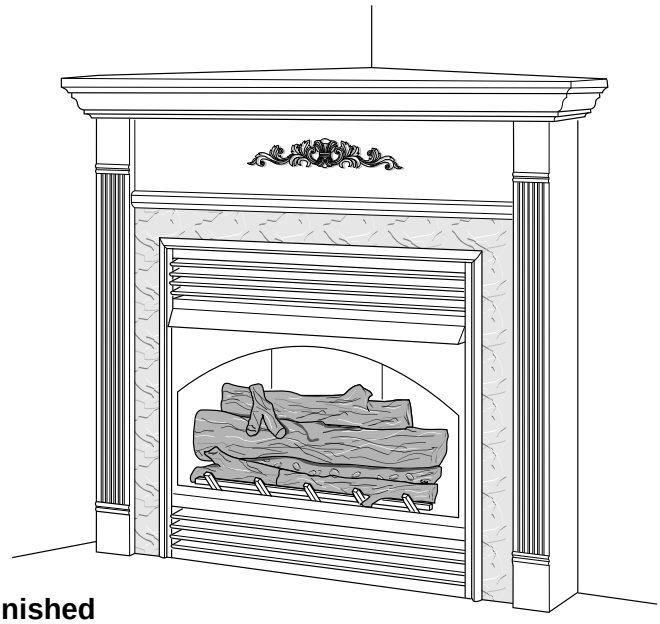


HEARTH BASE
G3000F- Walnut Finished
G3001U - Unfinished
The hearth base creates a handsome riser for the fireplace (cannot be used with corner mantel). Dimensions (HxWxD): 6-1/8" x 58-1/8" x 28-1/2"

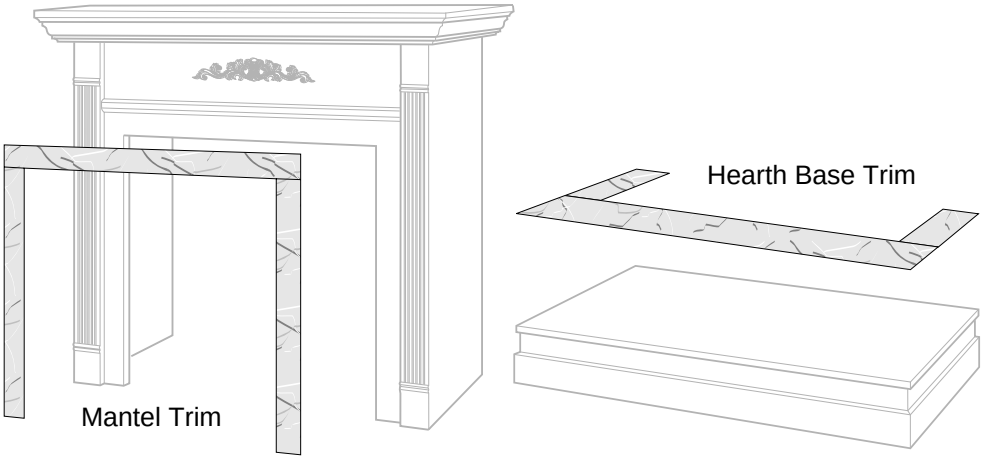


MANUAL SHUTOFF VALVE - GA5010
For all models. Manual shutoff valve with 1/8" NPT tap. Fits 1/2" NPT pipe.

ACCESSORIES
Continued



CORNER MANTEL
GM200F - Walnut Finished
GM201U - Unfinished
Shown with optional laminate mantel trim accessory.
Dimensions (HxWxD): 61-1/8" x 48-3/4" x 34-1/2"

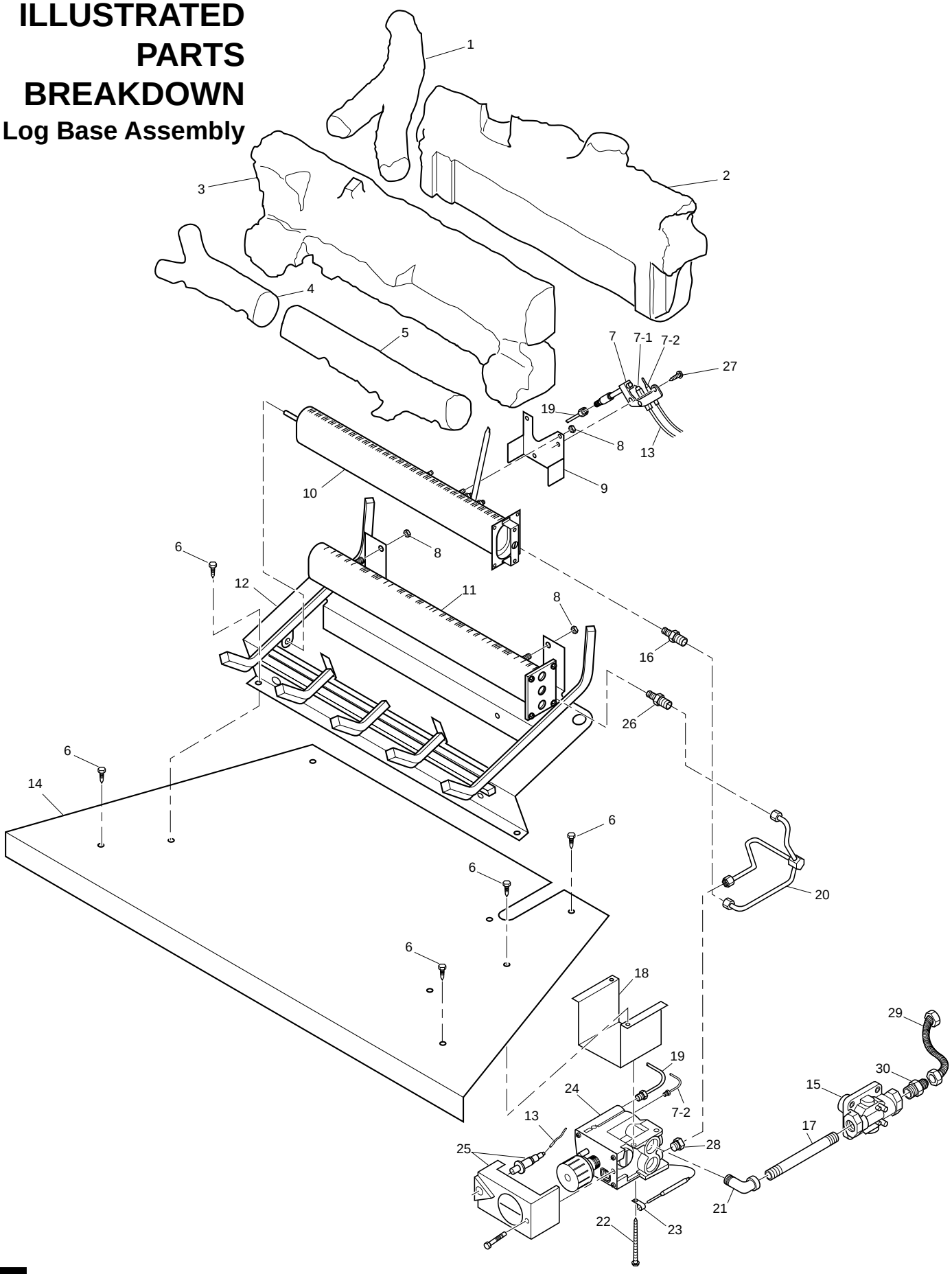


LAMINATE TRIM FOR HEARTH OR MANTEL
G3002J - Jade Marble Laminate Mantel Trim
G3003J - Jade Marble Laminate Hearth Base Trim
G3002S - Sandstone Marble Laminate Mantel Trim
G3003S - Sandstone Marble Laminate Hearth Base Trim
G3002B - Black Onyx Marble Laminate Trim
G3003B - Black Onyx Marble Laminate Hearth Base Trim
Mantel trim for cabinet or corner mantel. Hearth base trim for hearth base.

NAILING FLANGE - G3004
For securing fireplace to wall studs for built-in installation. Accessory kit includes two nailing flanges.

ILLUSTRATED PARTS BREAKDOWN

Log Base Assembly



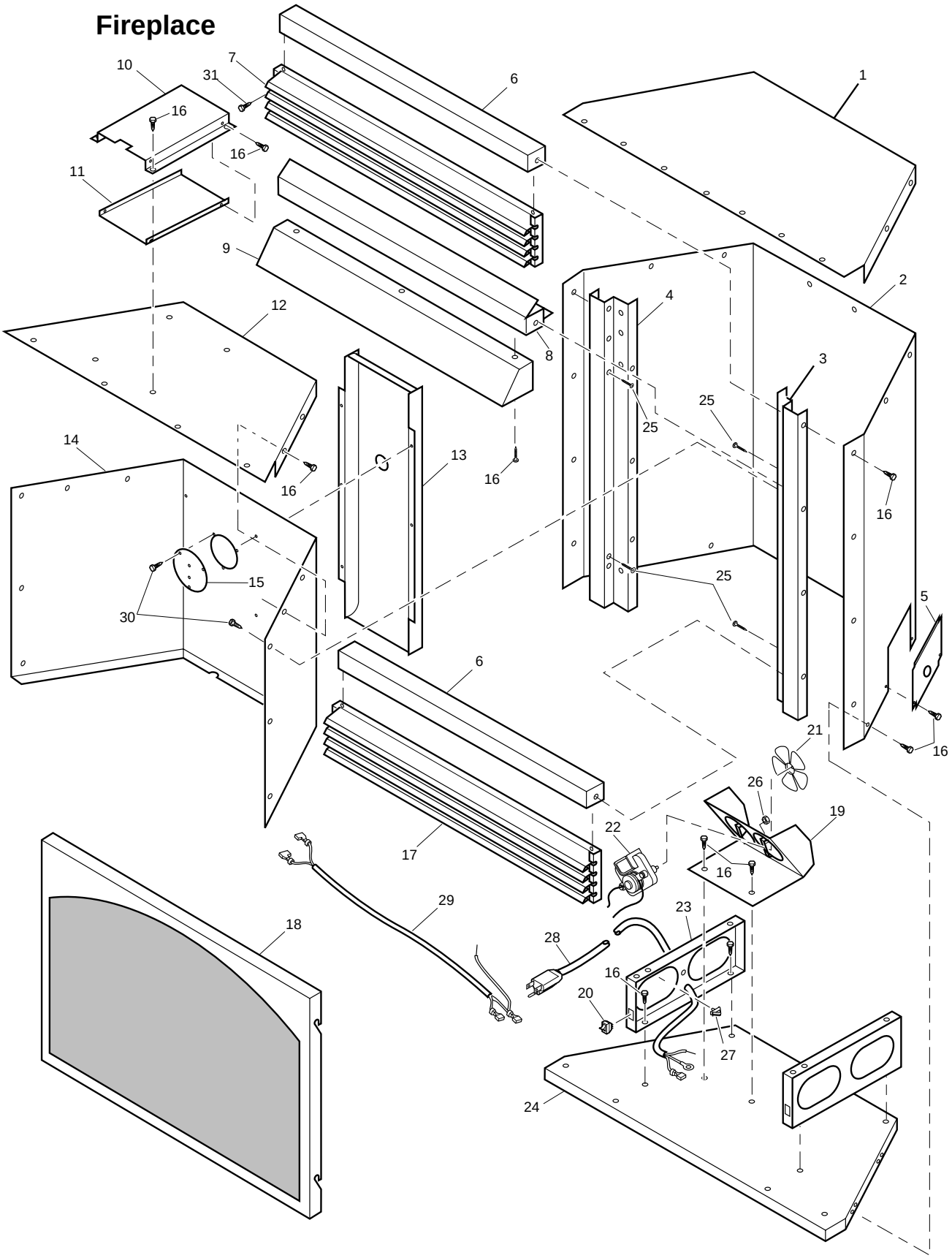
PARTS LIST
Log Base Assembly

This list contains replaceable parts used in your fireplace. When ordering parts, follow the instructions listed under *Replacement Parts* on page 31 of this manual.

KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	101335-01	Crossover Log (#3)	1
2	101337-02	Rear Log (#1)	1
3	101336-02	Front Log (#2)	1
4	101332-01	Left Front Branch (#4)	1
5	101333-01	Right Front Branch (#5)	1
6	098304-01	Screw, #10 Phillips, Black	8
7	100701-02	O.D.S. Pilot	1
7-1	098594-01	Ignitor	1
7-2	098593-01	Thermocouple	1
8	098249-01	Nut	4
9	101006-01	Pilot Bracket	1
10	101330-02	Front Burner Assembly	1
11	100999-05	Rear Burner Assembly	1
12	101331-04	Base Assembly (with decals)	1
13	098271-06	Ignitor Cable	1
14	101359-01BR	Firebox Bottom	1
15	098867-07	Gas Regulator	1
16	101004-04	Front Burner Injector	1
17	100996-01	Pipe Nipple	1
18	101382-01	Thermovalve Bracket	1
19	099387-03	Pilot Tube	1
20	101384-01	Burner Tube	1
21	101380-01	Elbow	1
22	099211-01	Screw	2
23	098544-01	Thermostat Clamp	1
24	101329-08	Thermostat Gas Valve Assembly	1
25	101381-01	Cover and Piezo	1
26	101004-11	Rear Burner Injector	1
27	M11084-26	Hex Screw, #10	2
28	098264-02	Male Connector	1
29	101628-01	Flex Hose	1
30	097809-02	Adapter	1
PARTS AVAILABLE — NOT SHOWN			
	099564-132	AGA Info Decal (Vanguard)	1
	099564-134	AGA Info Decal (Comfort Flame)	1
	100563-01	Warning Plate	1
	101054-01	Lighting Instructions Plate	1
	100565-01	Bead Chain	1
	100639-01	Caution Decal	1
	101416-03	Information Video	1

ILLUSTRATED PARTS BREAKDOWN

Fireplace



PARTS LIST
Fireplace

This list contains replaceable parts used in your fireplace. When ordering parts, follow the instructions listed under *Replacement Parts* on page 31 of this manual.

KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	101357-01	Top Outer Casing	1
2	101373-01	Outer Casing	1
3	101363-01CB	Right Front Side	1
4	101361-01CB	Left Front Side	1
5	101368-01	Access Door	2
6	101352-01CB	Top Front	2
7	101203-01	Top Louver Assembly	1
8	101354-01CB	Middle Front	1
9	101356-01CB	Firebox Hood	1
10	101403-01	Top Duct	1
11	101404-01	Baffle	1
12	101499-01CB	Firebox Top	1
13	101573-01	Back Duct with Bushing	1
14	101375-01BR	Firebox Wrapper	1
15	101614-01	Limit Switch (thermal disk) Assy.	1
16	M11084-26	Hex Screw, #10	76
17	101387-01	Lower Louver Assembly	1
18	101367-01BR	Screen Assembly	1
19	101575-01	Motor Housing Assembly	1
20	099998-01	Fan Switch	1
21	101379-01	Fan	2
22	101408-01	Motor	2
23	101348-01	Firebox Support	2
24	101347-01CB	Outer Base	1
25	099230-01	Shoulder Screw	4
26	097384-02	Hex Nut with Washer 8-32	2
27	099123-01	Wire Clip	4
28	098219-28	Power Cord Assembly	1
29	101398-01	Wire Harness	1
30	098304-01	Phillips Pan Head Screw, #10	9
31	098304-03	Phillips Pan Head Screw, #8	4
PARTS AVAILABLE — NOT SHOWN			
	101407-01	Brass Trim Kit	1
	099038-01	Strain Relief Bushing	1

NOTES

NOTES

WARRANTY INFORMATION

KEEP THIS WARRANTY

Model _____

Serial No. _____

Date Purchased _____

Always specify model and serial numbers when communicating with the factory.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

LIMITED WARRANTY
VENT-FREE NATURAL GAS FIREPLACE

DESA International warrants this product to be free from defects in materials and components for two (2) years from the date of first purchase, provided that the product has been properly installed, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty the Bill of Sale or cancelled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers the cost of part(s) required to restore this heater to proper operating condition and an allowance for labor when provided by a DESA Authorized Service Center. Warranty part(s) MUST be obtained through authorized dealers of this product and/or DESA International who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The heater MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

This warranty does not apply to parts that are not in original condition because of normal wear and tear, or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective heater will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT; THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO TWO (2) YEARS FROM THE DATE OF FIRST PURCHASE; AND DESA INTERNATIONAL'S LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND DESA INTERNATIONAL SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation on implied warranties, or exclusion or limitation on damages may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

For information about this warranty write:

DESA INTERNATIONAL
2001 Industrial Drive
P.O. Box 90004
Bowling Green, KY 42102-9004

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