

21 TRV GreenSmart<sup>™</sup> Fireplace

Tested and Listed by



OMNI-Test Laboratories, Inc. Portland, Oregon Report # 028-F-85-5 ANSI Z21.88b-2003

- Built-In Direct Vent Fireplace
- Natural Gas or Propane
- Residential or Mobile Home

WARNING: If the information in these instructions 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 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.

This appliance may be installed in an aftermarket permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes.

This appliance is only for use with the type(s) of gas indicated on the rating plate. A conversion kit is supplied with the appliance.

# **Installation Manual**

Installer: After installation give this manual to the homeowner and explain operation of this heater.

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# WARNING



HOT GLASS WILL CAUSE BURNS. DO NOT TOUCH GLASS UNTIL COOLED. NEVER ALLOW CHILDREN TO TOUCH GLASS.



TRAVIS INDUSTRIES HOUSE OF FIRE

www.travisproducts.com 4800 Harbour Pointe Blvd. SW Mukilteo, WA 98275 Introduction

## Overview

This manual details the installation requirements for the 21 TRV GS fireplace. For operating and maintenance instructions, refer to the 21 TRV GS Owner's Manual (part # 100-01209).

# **Listing Details**

This appliance was listed by OMNI Test Labs to ANSI Z21.88 - report # 028-F-85-5. The listing label is attached to the appliance near the gas control valve. A copy is shown to the right.

## IAS (ICBO) Approval

This appliance was listed by OMNI Test Labs - IAS # TL130.

### **Massachusetts Approval**

This manual has been submitted to the Massachusetts Board of State Examiners of Plumbers and Gas Fitters

#### **National Fireplace Institute**



We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

num Clearances to Combustibles Top and Sides to Enclosure	Image: Signature of the second structure of the second structure of the second structure of the second structure second second second second structure second structure second structure second structure second structure second structure second second second second second second structure second secon
Minimum Clearances to Combustibles           Freplace to Adjacent Wall         1" (26 mm)         Top and Sides to Enclosure           Wood Floor Beneath Freplace         0" (0 mm)         Base of Fireplace to a 12" Mantel (see man Back and Angled Sides to Enclosure	LP       N.G.       L.P.       N.G.         Max. Input Rate on "HI" (BTU/H1) 5,000 6,000       Maximum Inlet Pressure (inches W.C.) 11" 5,50       Min. Input Rate on "LO" (BTU/H1) 5,000 6,000       Maximum Inlet Pressure (inches W.C.) 11" 5,50         Min. Input Rate on "LO" (BTU/H1) 5,000 6,000       Maximum Inlet Pressure (inches W.C.) 13" 7"       Manifold Pressure on "HI" (inches W.C.) 10" 3,55         For natural gas when equipped with the following drill size orifice: DMS 66 Front - 65 Back       13" 7"         This appliance is equipped with the following drill size orifice: DMS 66 Front - 65 Back       13" 7"         Tris appliance is equipped for use only at attitudes 0-2,000 feet (pet 000) in the USA. In Canada, 0-4500 feet (p-1370m).       10" 3,5         For attitudes above 2,000 feet, the vent configuration, orifice, or combination of both may need to be changed.       9.001         See the owner's manual for information on making these changes.       Manufacture 2009 an Jan.       Apr.         Manufacture       2010       Feb.       May       May.         Manufacture       2001       May.       May.       May.         Manufacture       2003       Jan.       May.       May.         Manufacture       2001       May.       May.       May.         Manufacture       2001       Feb.       May.       May.
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# Safety Warnings:

- Failure to follow all of the requirements may result in property damage, bodily injury, or even death.
- This unit must be installed by a qualified installer to prevent the possibility of an explosion.
- This appliance must be installed in accordance with all local codes, if any; if not, in U.S.A. follow ANSI Z223.1 and NFPA 54(88).
- A manufactured home (USA only) or mobile home OEM installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, or, when such a standard is not applicable, the Standard for Manufactured Home Installations, ANSI/NCSBCS A225.1, or Standard for Gas Equipped Recreational Vehicles and Mobile Housing, CSA Z240.4. This appliance may be installed in Manufactured Housing only after the home is site located.
- All exhaust gases must be vented outside the structure of the living-area. Combustion air is drawn from outside the living-area structure. The venting must not be connected to a chimney flue serving a separate solid-fuel burning appliance.
- Notify your insurance company before hooking up this fireplace.
- The room heater 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.
- The instructions in this manual must be strictly adhered to. Do not use makeshift methods or compromise in the installation. Improper installation will void the warranty and safety listing.
- This heater is approved for use with natural gas (NG) or propane (LP). Burning the incorrect fuel will void the warranty and safety listing and may cause an extreme safety hazard. Direct questions about the type of fuel used to your dealer. Check the label and flame adjust knob on the gas control valve.
- Contact your local building officials to obtain a permit and information on any installation restrictions or inspection requirements in your area.
- If the flame becomes sooty, dark orange in color, or extremely tall, do not operate the heater. Call your dealer and arrange for proper servicing.
- It is imperative that control compartments, screens, or circulating air passageways of the heater be kept clean and free of obstructions. These areas provide the air necessary for safe operation.
- Do not operate the heater if it is not operating properly in any fashion or if you are uncertain. Call your dealer for a full explanation of your heater and what to expect.
- Do not store or use gasoline or other flammable liquids in the vicinity of this heater.
- Do not operate if any portion of the heater was submerged in water or if any corrosion occurs.
- Do not place clothing or other flammable items on or near the heater. Because this heater can be controlled by a thermostat there is a possibility of the heater turning on and igniting any items placed on or near it.
- Light the heater using the built-in igniter. Do not use matches or any other external device to light your heater.
- Never remove, replace, modify or substitute any part of the heater unless instructions are given in this manual. All other work must be done by a trained technician. Don't modify or replace orifices.
- The viewing glass should be opened only for conducting service.
- Any safety screen or guard removed for servicing must be replaced prior to operating the heater.

# Safety Warnings (continued):

- Allow the heater to cool before carrying out any maintenance or cleaning.
- Operate the heater according to the instructions included in this manual.
- If the main burners do not start correctly turn the gas off and call your dealer for service.
- This unit is not for use with solid fuel.
- Do not place anything inside the firebox (except the included fiber logs).
- If the fiber logs become damaged, replace with Travis Industries log set.
- Do not throw this manual away. This manual has important operating and maintenance instructions that you will need at a later time. Always follow the instructions in this manual.
- Do not touch the hot surfaces of the heater. Educate all children of the danger of a high-temperature heater. Young children should be supervised when they are in the same room as the heater.
- Due to the high temperature, the heater should be located out of traffic and away from furniture and draperies.
- Instruct everyone in the house how to shut gas off to the appliance and at the gas main shutoff valve. The gas main shutoff valve is usually next to the gas meter or propane tank and requires a wrench to shut off.
- Travis Industries, Inc. grants no warranty, implied or stated, for the installation or maintenance of your heater, and assumes no responsibility of any consequential damage(s).

## **Installation Options**

- Residential or Mobile Home
- Straight or Corner Placement
- Flush or Recessed Face

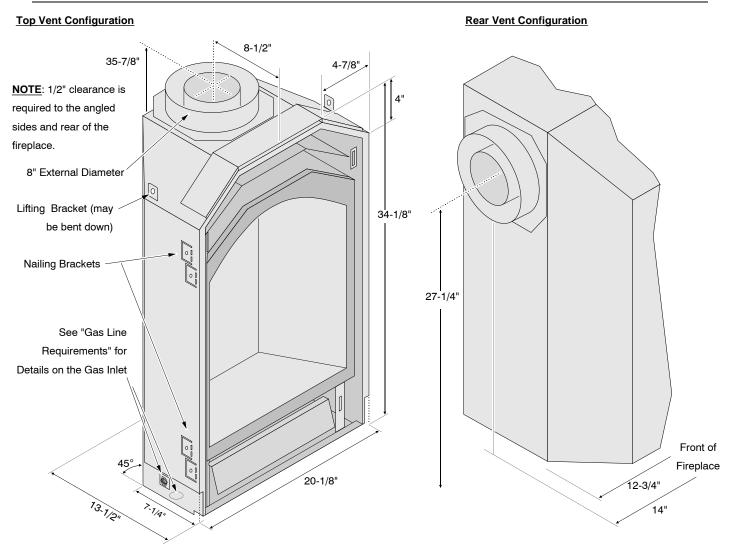
- Raised or Floor Placement
- Internal or External Chase
- Horizontal or Vertical Vent
- Bedroom Approved

# Heating Specifications

		Natural Gas	Propane
	Approximate Heating Capacity (in square feet)*	Up to 650	Up to 650
	Maximum BTU Input Per Hour	16,500	16,500
ł	Heating capacity will yary with floor plan, insulation, and	d outside temperature	

Heating capacity will vary with floor plan, insulation, and outside temperature.

# Dimensions



## Packing List

- Propane Conversion Kit
- Log Set
- Firestop (sku 93006094)

- Rear Vent Configuration Kit (insulation)
- 4 AA Batteries, 1 9Volt Battery
- Felt Tabs (for concealment cover)

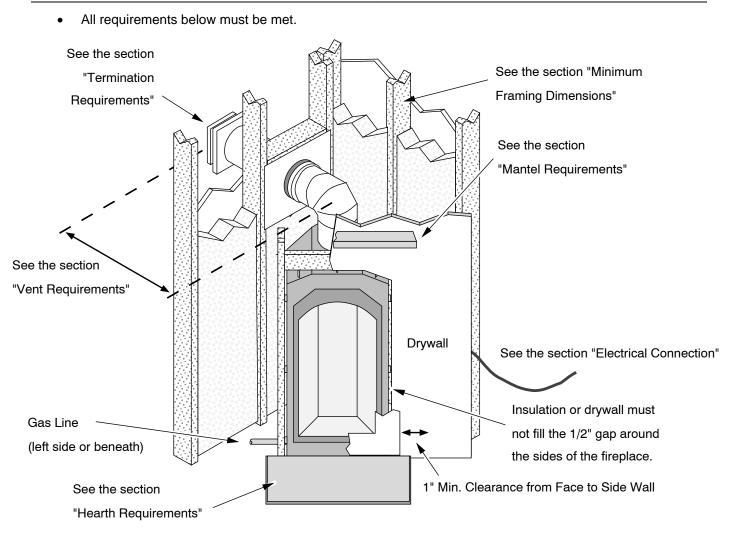
# Additional Items Required

- Direct Vent
- Gas Line Equipment (shutoff valve, pipe, etc.)
- Electrical Equipment (min. 14 gauge, grounded line)

## **Recommended Installation Procedure**

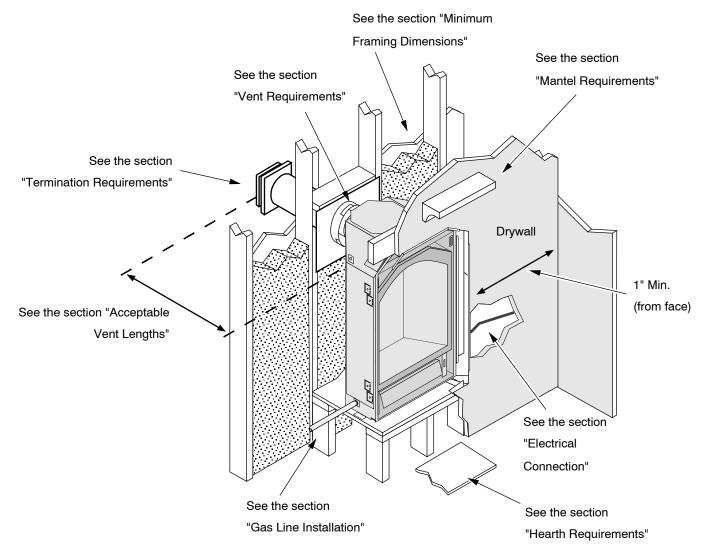
- **<u>HINT</u>**: We strongly recommend installing all of the optional equipment before placing the fireplace. Place the fireplace on a suitable work stand to ease installation.
- Install the optional equipment (do not install the logs) we recommend the following order:
  - a) LP Conversion (if applicable) NOTE: leave the burner removed until after the liner is installed (if applicable). If using the GreenSmart remote, install the modulating regulator during LP conversion.
  - b) Liner (if applicable) NOTE: You will need to loosen the accent light bracket while installing the liner (see page 49).
  - c) Blower NOTE: Do not install the rheostat if using the GreenSmart remote.
  - e) Remote
- Frame the opening for the fireplace. Make sure to allow for vent installation.
- This fireplace is designed to accommodate 1/2" drywall or 1/2" drywall with 3/8" tile (see "Nailing Brackets" on page 17 for details). Secure the fireplace to the framing.
   <u>NOTE</u>: If the facing is not 1/2" or 7/8" thick, follow the directions below:
   Place a strip of facing material to both sides of the fireplace opening (NOTE: the strips will be removed after the fireplace is secured). The facing thickness must represent the total thickness of the finished facing (e.g.: If tile is to be used, include the thickness of the backboard, tile, and tile adhesive). Insert the fireplace into the framing. Slide it back until the front edge of the fireplace is flush with the facing material. Secure the fireplace using the plates located along the base of the fireplace.
- Complete the gas line installation. Complete the electrical hook-up.
- Complete the vent installation.
- Install the hearth (if applicable).
- Install the drywall and facing (if applicable).
- Install the mantel (if applicable).
- Finalize the installation (see page 39) and install the grill or face.

# Installation Overview – Top Vent Configuration



# Installation Overview – Rear Vent Configuration

• All requirements below must be met.



# Massachusetts Requirements

NOTE: The following requirements reference various Massachusetts and national codes not contained in this document.

#### **Requirements for the Commonwealth of Massachusetts**

For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

#### Installation of Carbon Monoxide Detectors

At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors.

In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.

In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

#### Approved Carbon Monoxide Detectors

Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

#### Signage

A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than one-half (1/2) inch in size, "GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS".

#### Inspection

The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a)1 through 4.

#### Exemptions

The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:

• The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and

• Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

#### MANUFACTURER REQUIREMENTS

#### Gas Equipment Venting System Provided

When the manufacturer of Product Approved side wall horizontally vented gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for installation of the equipment and the venting system shall include:

- Detailed instructions for the installation of the venting system design or the venting system components; and
- A complete parts list for the venting system design or venting system.

#### **Gas Equipment Venting System NOT Provided**

When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

• The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and

• The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instructions.

A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

See Gas Connection section for additional Commonwealth of Massachusetts requirements.

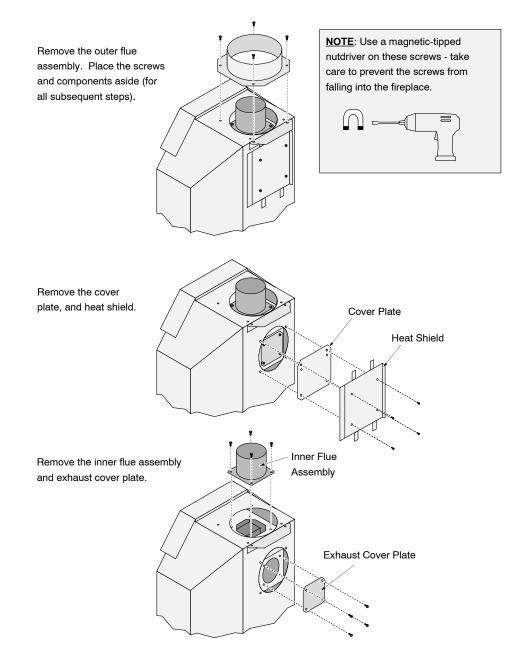
# Top Vent or Rear Vent Configuration

This appliance is shipped in the top vent configuration. To change to the rear vent configuration, follow the directions below.

**NOTE**: top or rear vent configuration affects several aspects of installation (framing, maximum vent rise, maximum vent run). Make sure the vent configuration is correct prior to installation.

**<u>HINT</u>**: the diffuser is easiest to modify when converting the vent to rear-vent configuration. Refer to the vent configuration charts to determine if the vent diffuser requires adjustment to position # 2.

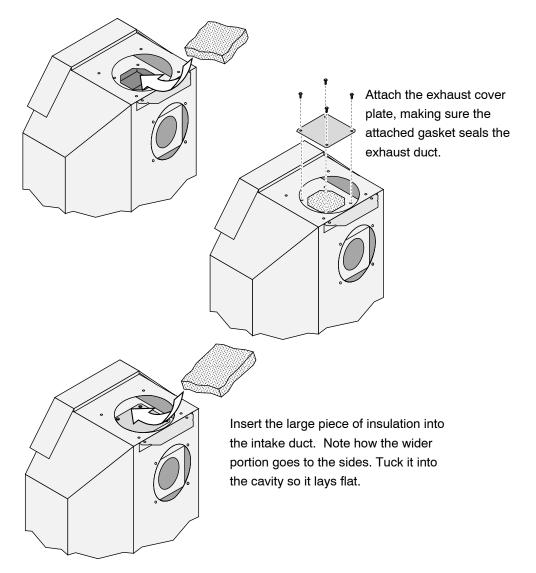
#### **Converting the Fireplace to Rear Vent Configuration**



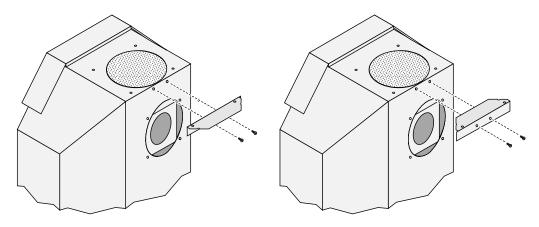
# Installation (for qualified installers only)

### Converting the Fireplace to Rear Vent (continued)

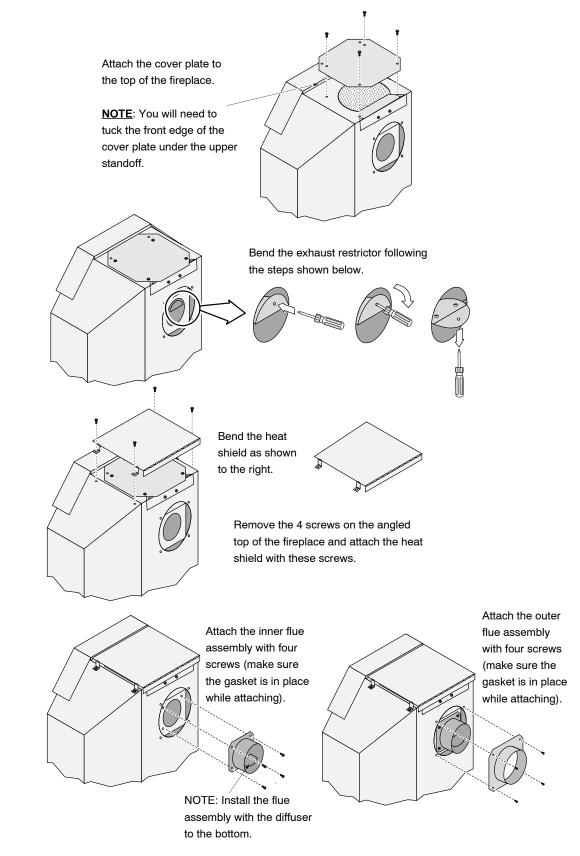
Insert the small piece of insulation into the exhaust duct. Tuck it into the cavity so it lays flat.



Remove the flue collar suport, rotate it  $180^{\circ}$ , and re-attach it to the fireplace.



## Converting the Fireplace to Rear Vent (continued)



# Fireplace Placement Requirements

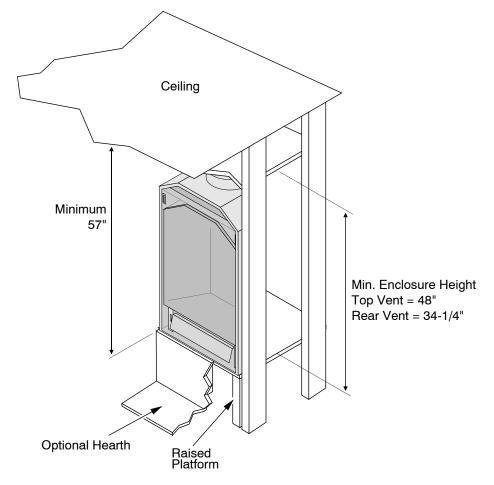
- The fireplace requires a 1/2" clearance from the angled sides and back of the fireplace to the framing members. No material (insulation, framing, etc.) may be placed into this area.
- Fireplace must be installed on a level surface capable of supporting the fireplace and vent
- Fireplace must be placed directly on wood or non-combustible surface (not on linoleum or carpet)
- This heater may be placed in a bedroom.

#### Clearances

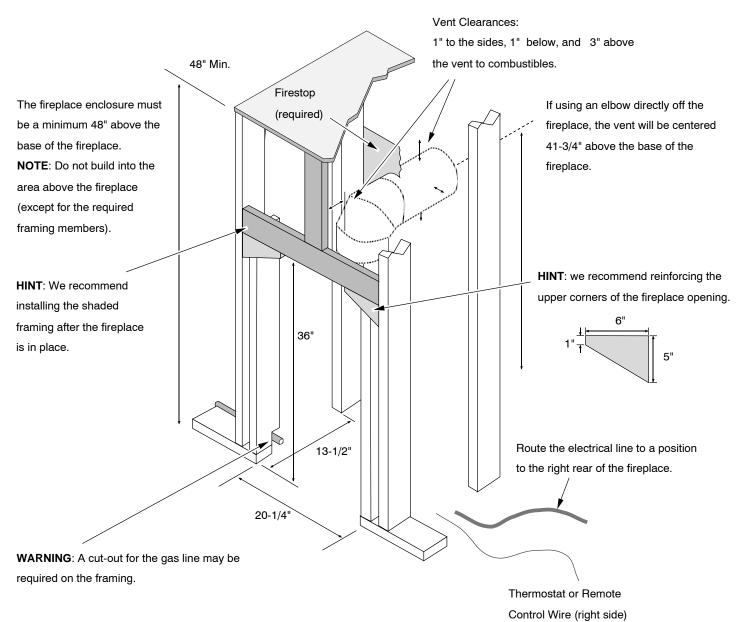
- When installed, walls in front of the fireplace must be a minimum 1" to the side of the fireplace.
- Due to the high temperature, the heater should be located out of traffic and away from furniture and draperies.
- Fireplace must be placed so the vents below and above the glass do not become blocked.

#### **Raised Fireplaces**

• The fireplace (and hearth, if desired) may be placed on a platform designed to support the fireplace (95 Lbs.) and vent.



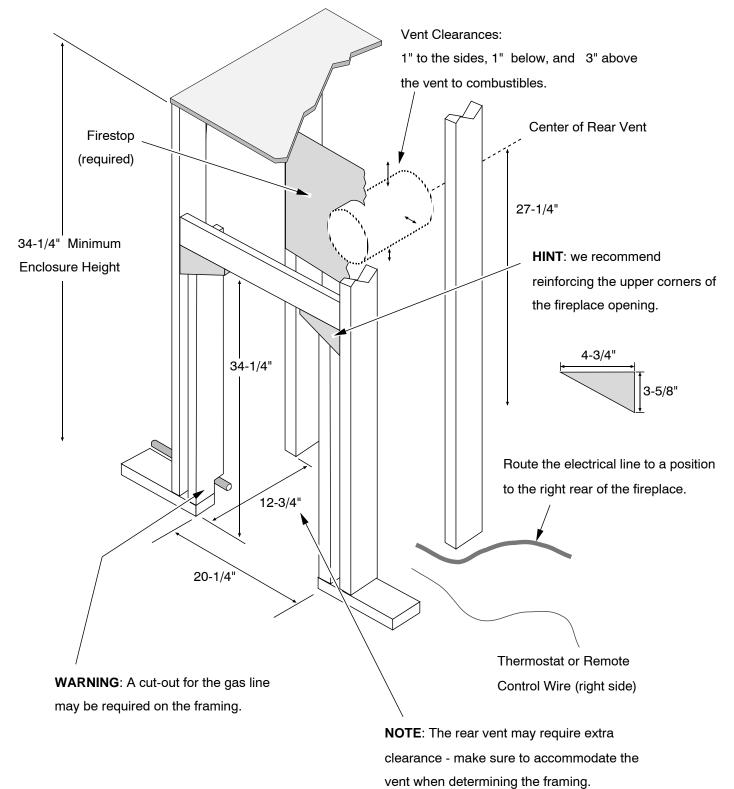
## **Minimum Framing Dimensions - Top Vent Configuration**



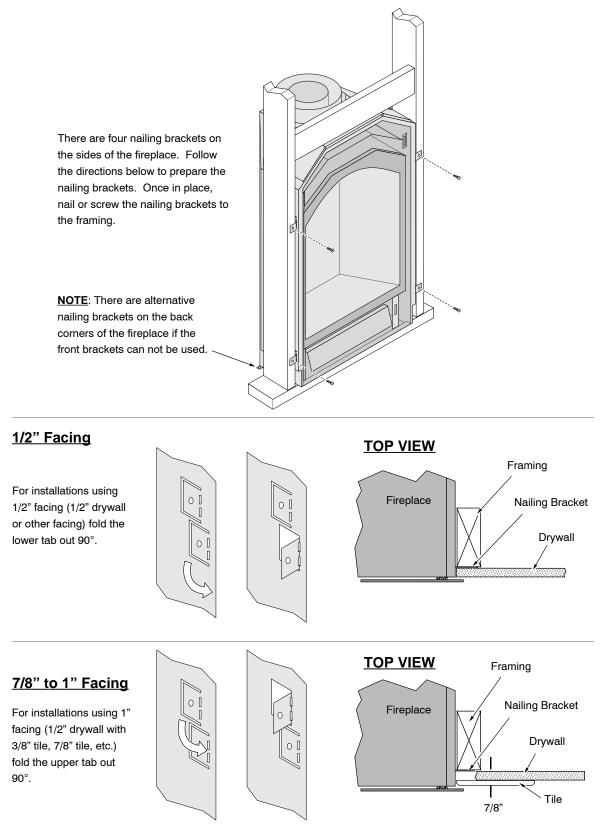
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# Installation (for qualified installers only)

## **Minimum Framing Dimensions - Rear Vent Configuration**

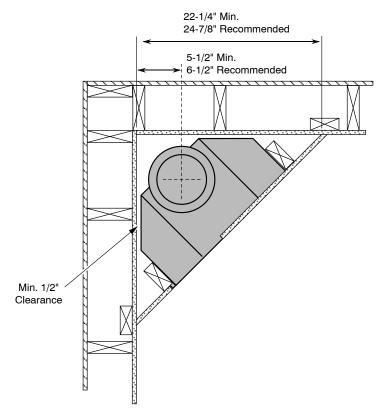


### **Nailing Brackets**



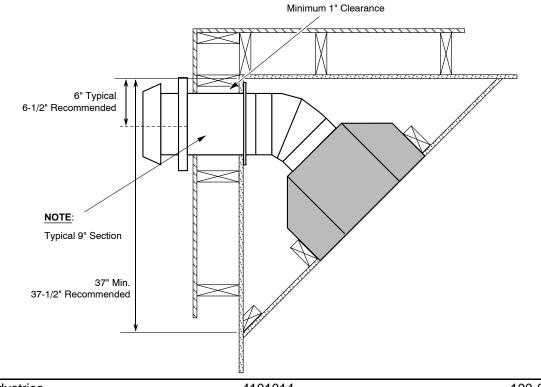
## **Corner Installations - Top Vent Configuration**

Typical 45° installation uses the framing dimensions shown in the illustration below (NOTE: all clearances apply).



## **Corner Installations - Rear Vent Configuration**

Typical 45° installation uses the framing dimensions shown in the illustration below (NOTE: all clearances apply).



## Gas Line Requirements

#### MASSACHUSETTS INSTALLATIONS - WARNING:

THIS PRODUCT MUST BE INSTALLED BY A LICENSED PLUMBER OR GAS FITTER WHEN INSTALLED WITHIN THE COMMONWEALTH OF MASSACHUSETTS.

OTHER MASSACHUSETTS CODE REQUIREMENTS:

- Flexible connector must not be longer than 36 inches.
- Shutoff valve must be a "T" handle gas cock.
- Only direct vent sealed combustion products are approved for bedrooms or bathrooms.
- Fireplace dampers must be removed or welded in the open position prior to the installation of a fireplace insert or gas log.
- A carbon monoxide (CO) detector is required in the same room as the appliance.
- The gas line must be installed in accordance with all local codes, if any; if not, follow ANSI 223.1 and the requirements listed below.
- The fireplace and gas control valve must be disconnected from the gas supply piping during any pressure testing of that system at test pressures in excess of 1/2 psig. For pressures under 1/2 psig, isolate the gas supply piping by closing the manual shutoff valve.
- Leak test all gas line joints and the gas control valve prior to and after starting the fireplace.

#### Fuel

• This fireplace is designed either for natural gas or for propane (but not for both). Check the sticker on the top of the gas control valve to make sure the correct fuel is used.

#### **Gas Line Connection**

 Installation must be performed by a qualified installer, service agency or the gas supplier (In Massachusetts a licensed plumber/gasfitter).

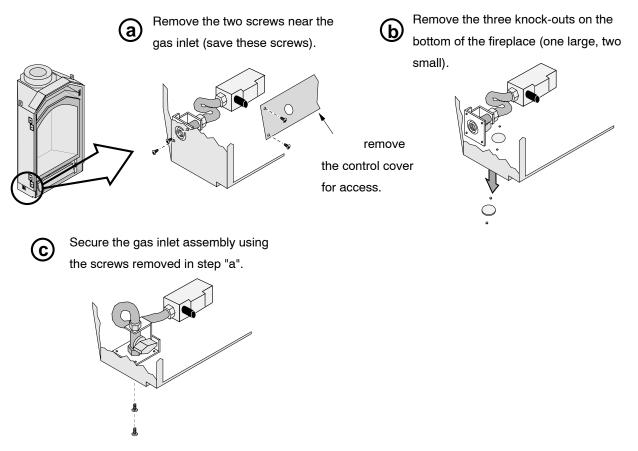
Gas Inlet Pressure		Standard Input Pressure
	Natural Gas	7" W.C. (1.74 kPA)
	Propane	13" W.C. (2.73 kPA)

- If the pressure is not sufficient, make sure the piping used is large enough, the supply regulator is adequately adjusted, and the total gas load for the residence does not exceed the amount supplied.
- The supply regulator (the regulator that attaches directly to the residence inlet or to the propane tank) should supply gas at the suggested input pressure listed above. Contact the local gas supplier if the regulator is at an improper pressure.

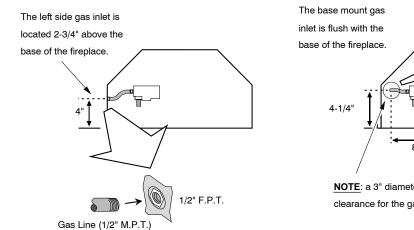
# Installation (for qualified installers only)

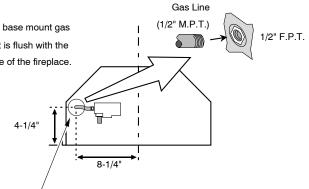
### **Optional Gas Line Location**

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#### **Gas Line Location**





**NOTE**: a 3" diameter hole is required to provide clearance for the gas inlet screws.

# **Electrical Connection (required)**

- The electrical line to the grounded receptacle inside the fireplace must be installed by a qualified installer and must meet all local codes.
- Make sure the household breaker is shut off prior to working on any electrical lines.
- The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.1.

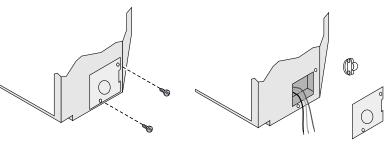
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• The electrical line must be a min. 14 gauge, and supply 120 Volts at 60 Hz (2 Amps).

<u>Caution</u>: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

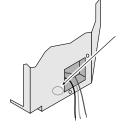
Remove the cover from the fireplace junction box.

The three connection wires and a romex clamp are inside the junction box.





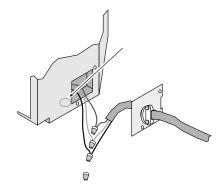
Remove the knock-out from the cover plate.



NOTE: An alternative knock-out is provided in the base of the fireplace if you wish to run the electrical line from below.



Secure the romex connector to the cover plate. Route the electrical line through the cover plate and attach to the three electrical leads. Replace the cover plate plate.



# **Optional Wall Switch or Thermostat Installation**

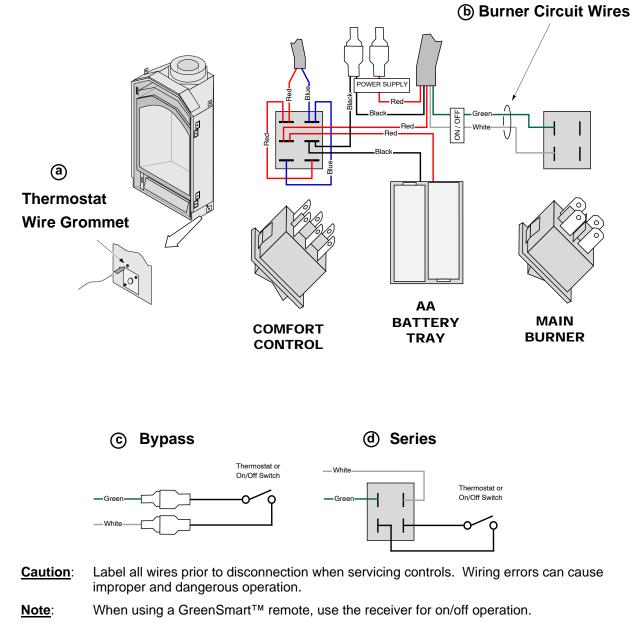


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Do not connect 110-120 VAC to the gas control valve or wiring system of this fireplace. The switch must be installed by a qualified installer.

This fireplace may be installed with an optional wall switch or thermostat. The thermostat (or on/off switch) wire should be passed through the grommet on either side of the fireplace near the gas inlet (see item "a" below). The thermostat (or on/off switch) wires will interrupt the burner circuit (see item "b" below).

- If you wish to bypass the switch, connect the thermostat (on/off switch) wires directly to the green and white wires (see "c" below).
- If you wish keep the switch (series) re-align the wires as shown in item "d" below. NOTE: The on/off switch must be in the "ON" position for the thermostat (or on/off switch) to operate.



© Travis Industries

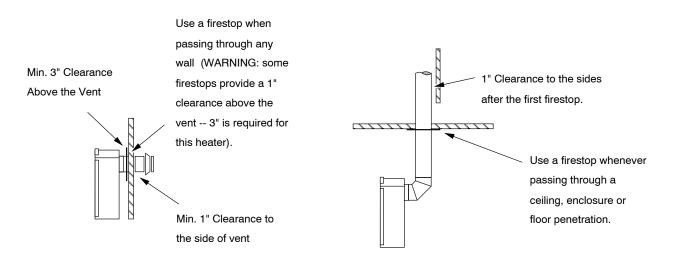
## Vent Requirements

- The gas appliance and vent system must be vented directly to the outside of the building, and never be attached to a chimney serving a separate solid fuel or gas-burning appliance. Each direct vent gas appliance must use it's own separate vent system.
- In addition to the requirements listed here, follow the requirements provided with the vent.
- A firestop is required whenever the vent penetrates a wall, floor, or ceiling (passes through framing members). Use the included firestop. It incorporates a 3" clearance above, 1" clearance below and to the sides of the vent.

### **Vent Clearances**

• The vent must maintain the required clearance to combustible materials to prevent a fire. Do not fill air spaces with insulation.

Sides	1"
Above	3"
Below Horizontal or 45° Section	1"



## **Altitude Considerations**

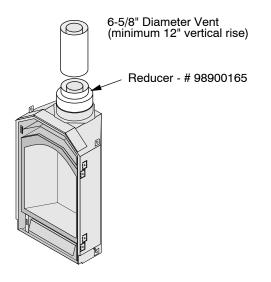
- This heater has been tested at altitudes ranging from sea level to 6,000 feet. In this testing we have found that the heater, with its standard orifice, burns correctly with just an air shutter adjustment.
- Failure to adjust the air shutter properly may lead to improper combustion which can create a safety hazard. Consult your dealer or installer if you suspect an improperly adjusted air shutter.

# Installation (for qualified installers only)

#### **Approved Vent**

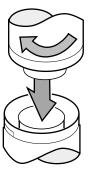
24

- Rear vent configurations use 8" diameter Simpson Dura-Vent Model Direct-Vent Pro (or GS)\*.
- Top vent configurations use 8" or 6-5/8" diameter Simpson Dura-Vent Direct-Vent Pro (or GS)\*. If using 6-5/8" diameter vent, attach the 8" to 6-5/8" reducer (Travis part # 98900165) to the fireplace.
  - \* Other vent may be approved with this fireplace. Check with the vent manufacturer for details.
- Always use the high-wind cap (or high-wind sconce cap, part # 58DVA-HSCH or 46DVA-HSCH).
- Installation instructions for Simpson Dura-Vent may be found at www.duravent.com



#### **Vent Installation**

- Slide the vent sections together and turn 1/4 turn until the sections lock in place.
- Screws are not required to secure the vent. However, three screws may be used to secure vent sections together if desired.
- High temperature sealant is recommended at the appliance starter section connection (use high-temperature silicone or Mill-Pac®).
- If disassembly is required, at time of re-assembly check to see if the vent creates a tight fit. If it does not, apply high temperature sealant to the joints of the affected sections.
- Horizontal sections require a 1/4" rise every 12" of travel
- Horizontal sections require non-combustible support every three feet (e.g.: plumbing tape)



# **Approved Vent Configurations**

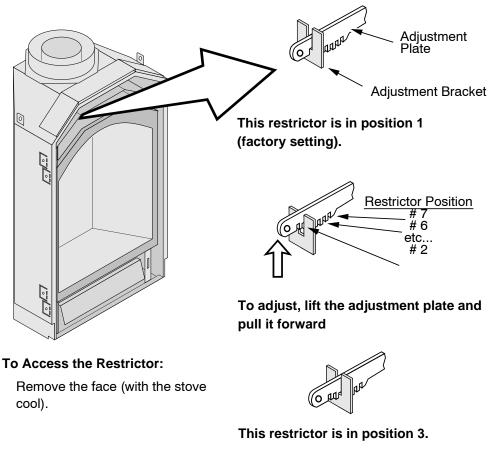
#### **Restrictor Position**

• An exhaust restrictor and diffuser are built into the appliance to adjust the flow rate of intake air and exhaust gases. Depending upon the vent configuration, you may be required to adjust the restrictor and/or diffuser. The charts for acceptable vent configurations detail the correct vent restrictor and diffuser positions.

#### **Exhaust Restrictor Adjustment**



If the diffuser is required to be in position # 2, you may wish to adjust the diffuser while the exhaust restrictor is removed.



#### To Adjust the Restrictor:

- 1 Determine the correct restrictor position (see the charts under "Approved Vent Configurations" the factory position is #1).
- **2** Lift up the adjustment plate and move it so the correct notch falls into the slot on the adjustment bracket.

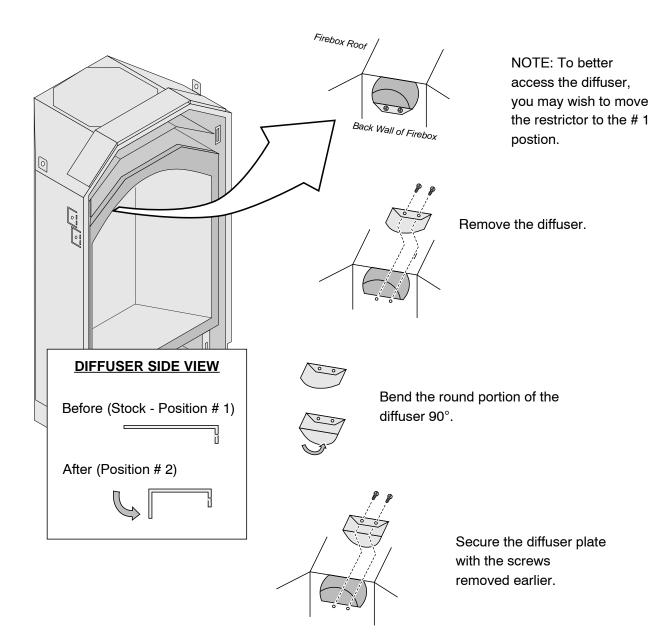
#### **Diffuser Plate Adjustment**

Certain vent configurations require the diffuser plate to be adjusted (refer to the approved vent configuration charts for details). Position # 1 is stock (flat). Position # 2 is bent. See the directions below to change the diffuser to position #2.



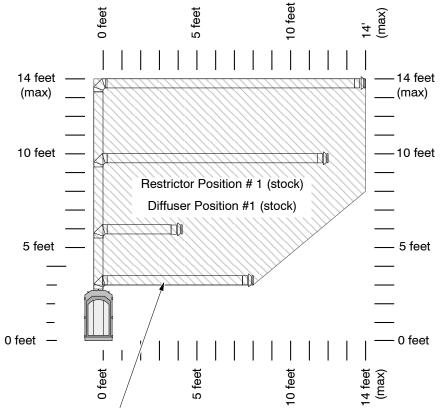
26

If the diffuser is required to be in position # 2, you may wish to adjust the diffuser while converting the appliance to rear-vent configuration.



## Top Vent Configuration with Horizontal Termination

- The termination must fall within the shaded area shown in the chart. Use the indicated restrictor and diffuser positions.
- Only one horizontal elbow may be used (see illustration at the bottom of the page).
- May use 8" or 6-5/8" diameter vent (see page for 24 details).



NOTE:

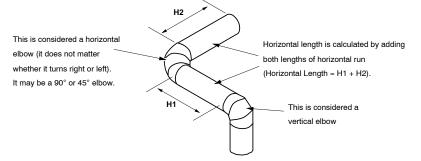
If using 6-5/8" diameter vent, a minimum 12" vertical rise is required.

#### NOTE:

Horizontal sections require a 1/4" rise every 12" of travel.

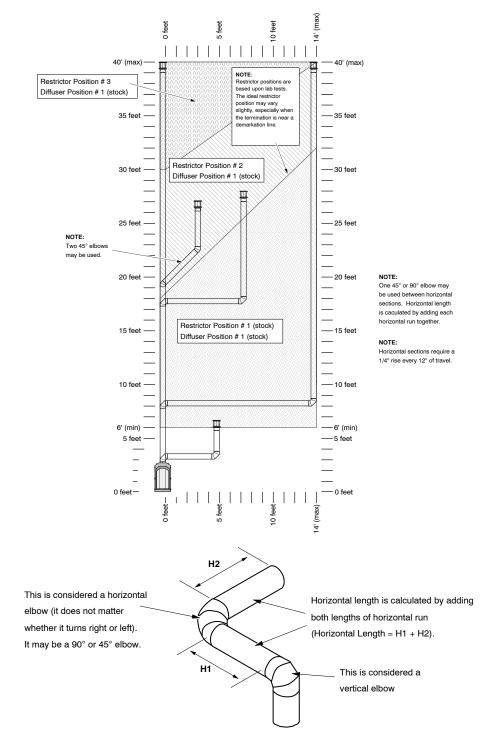
#### NOTE:

Restrictor positions are based upon lab tests. The ideal restrictor position may vary slightly.



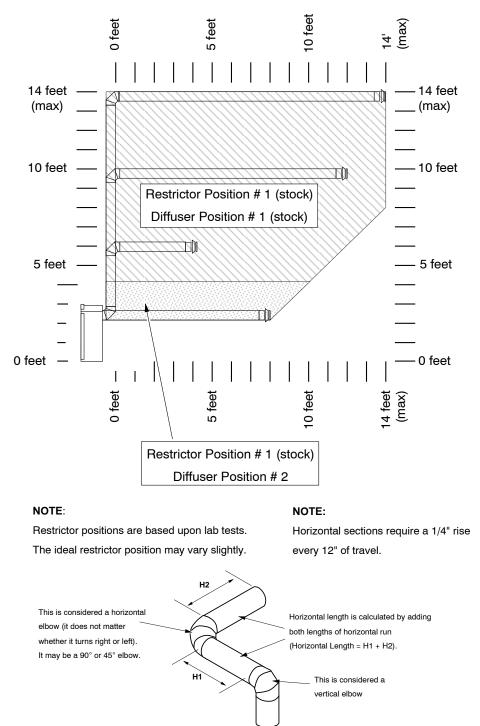
# Top Vent Configuration with Vertical Termination

- The termination must fall within the shaded area shown in the chart. Use the indicated restrictor and diffuser positions.
- Up to four elbows (45° or 90°) may be used.
- Only one horizontal elbow may be used.
- May use 8" or 6-5/8" diameter vent (see page for 24 details).



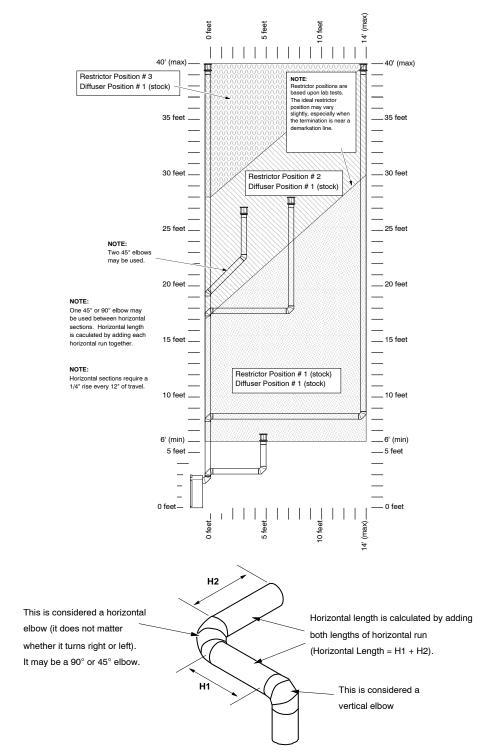
# Rear Vent Configuration with Horizontal Termination

- The termination must fall within the shaded area shown in the chart. Use the indicated restrictor and diffuser positions.
- Up to four elbows (45° or 90°) may be used.
- Only one horizontal elbow may be used.
- Use 8" diameter vent.



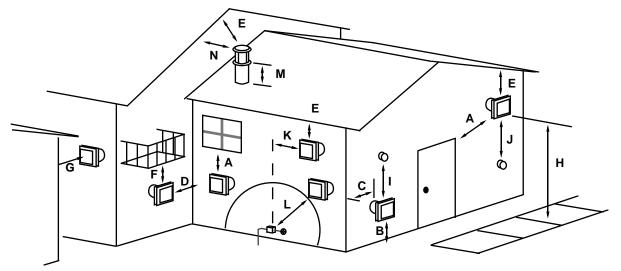
# Rear Vent Configuration with Vertical Termination

- The termination must fall within the shaded area shown in the chart. Use the indicated restrictor and diffuser positions.
- Up to four elbows (45° or 90°) may be used.
- Use 8" diameter vent.
- Only one horizontal elbow may be used.



## **Termination Requirements**

- ! Venting terminals shall not be recessed into a wall or siding.
- A Minimum 9" clearance from any door or window
- B Minimum 12" above any grade, veranda, porch, deck or balcony
- C Minimum 1" from outside corner walls **NOTE**: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- Minimum 1" from inside corner walls
   NOTE: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- E Minimum 11" clearance below unventilated soffits or roof surfaces Minimum 18" clearance below ventilated soffits Minimum 6" clearance below roof eaves
   NOTE: Vinyl surfaces require 24"
   NOTE: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- F Minimum 12" clearance below a veranda, porch, deck or balcony
   NOTE: Permitted only if veranda, porch, deck, or balcony is fully open on a minumum of two sides beneath the floor.
   NOTE: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- G Minimum 48" clearance from any adjacent building
- H Minimum 84" clearance above any grade when adjacent to public walkways or driveways NOTE: may not be used over a walkway or driveway shared by an adjacent building
- I Minimum 9" clearance to any nonmechanical air supply inlet to the building or the combustion air inlet to any other appliance.
- J Minimum 36" clearance above any mechanical air supply inlet if within 10' horizontally
- K Minimum 36" from the area above the meter/regulator (vent outlet) this extends 15' above the regulator **NOTE**: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- L Minimum 36" from the meter/regulator (vent outlet) **NOTE**: Clearance in accordance with local installation codes and the requirements of the gas supplier.
- M Minimum 12" above the roof line (for vertical terminations)
- N Minimum 24" horizontal clearance to any surface (such as an exterior wall) for vertical terminations



#### NOTE: Measure clearances to the nearest edge of the exhaust hood.

- Use the vinyl siding standoff when installing on an exterior with vinyl siding.
- · Vent termination must not be located where it will become plugged by snow or other material

Roof

Eaves

6" Min.

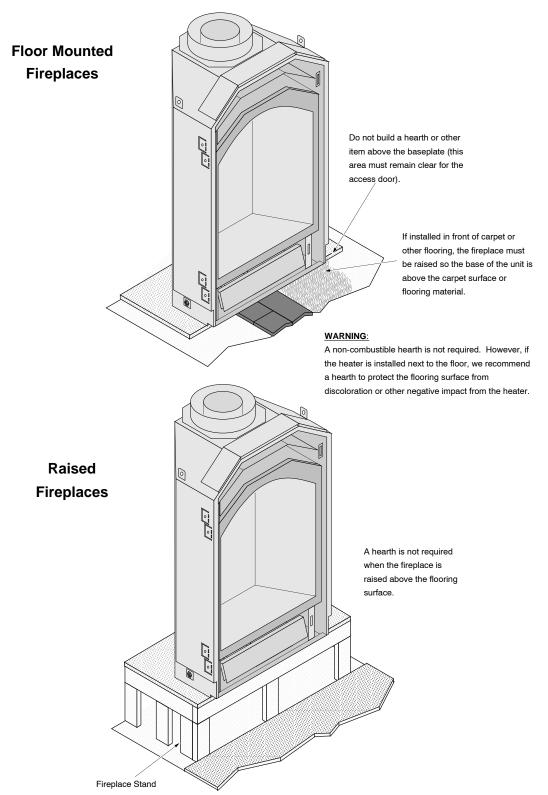
Roof

Surface

11" Min

# Hearth Requirements

<u>NOTE</u>: Looking Glass and Wilmington Faces require a raised fireplace – see Face Dimensions on page 33 for details.



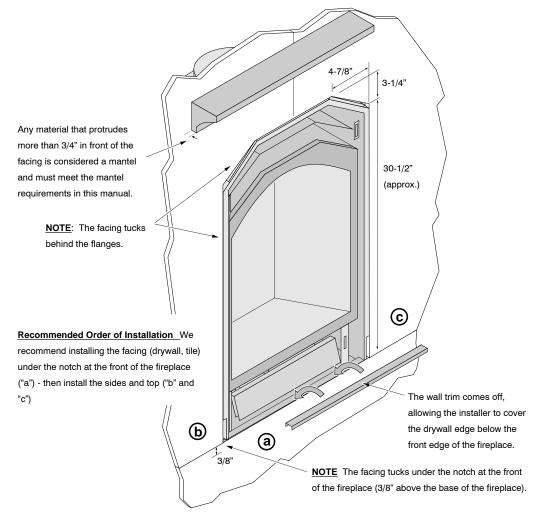
# Facing Requirements

- This appliance is designed to allow for drywall (or other combustible facing) to contact the sides and top of the front of the fireplace.
- NOTE: The combustible area above the facing must not protrude more than 3/4" from the facing. If it does, it is considered a mantel and must meet the mantel requirements listed in this manual.

#### Face Dimensions

Face	Height	<u>Width</u>	Bottom of Face	Installation Notes
Arched Faces	35-1/2"	21-1/8"	Flush w base of fireplace	Arched top is 25-3/4" radius
Bungalow, T. of L.	35-3/8"	21-1/8"	Flush w base of fireplace	
Vict. Lace	35-1/2"	21-1/8"	Flush w base of fireplace	
Looking Glass	36-3/4"	23-1/2"	1-1/4" BELOW base of fireplace	Cast face is approx. 2" thick
Wilmington	36-3/4"	22-1/8"	1-1/4" <b>BELOW</b> base of fireplace	

#### Facing Under 1" Thick



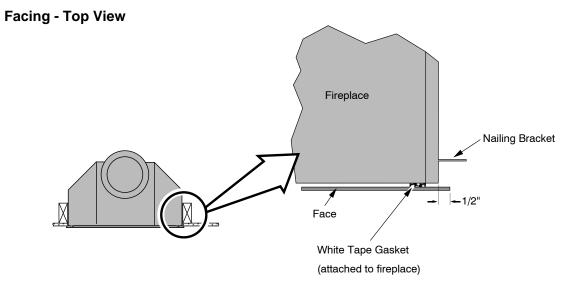
#### Facing Over 1" Thick

• Facing that protrudes in front of the face above the face (or within 1/2" of each side) must be made of non-combustible materials.

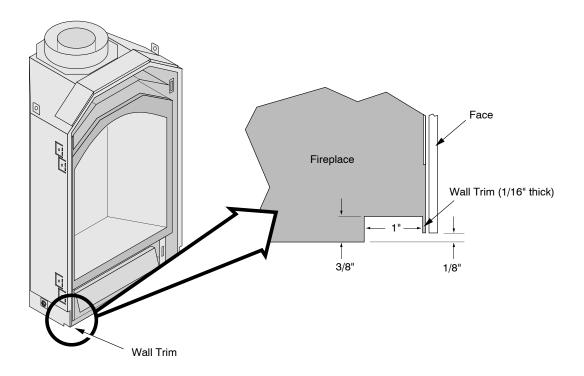
NOTE A 3/8" gap above the face is required for face installation and removal.

# Facing – Fireplace Overview

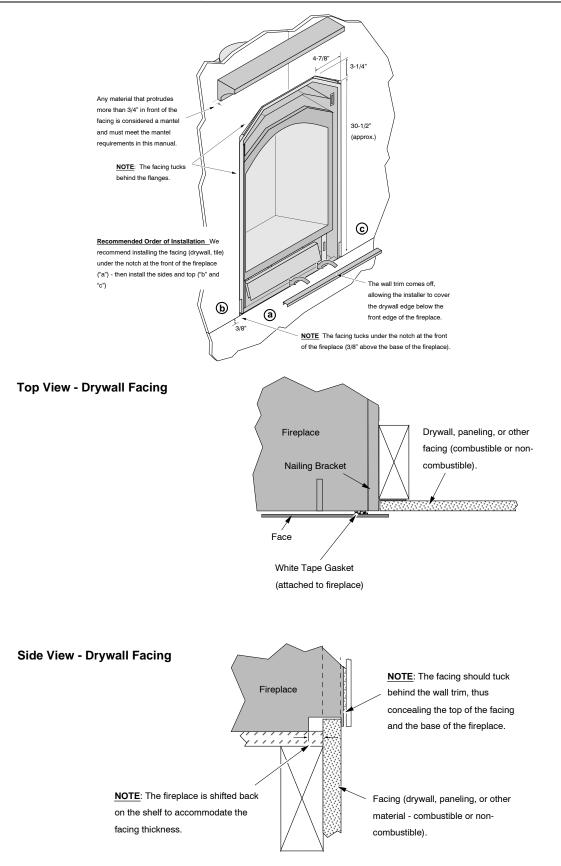
34



### Facing - Side View

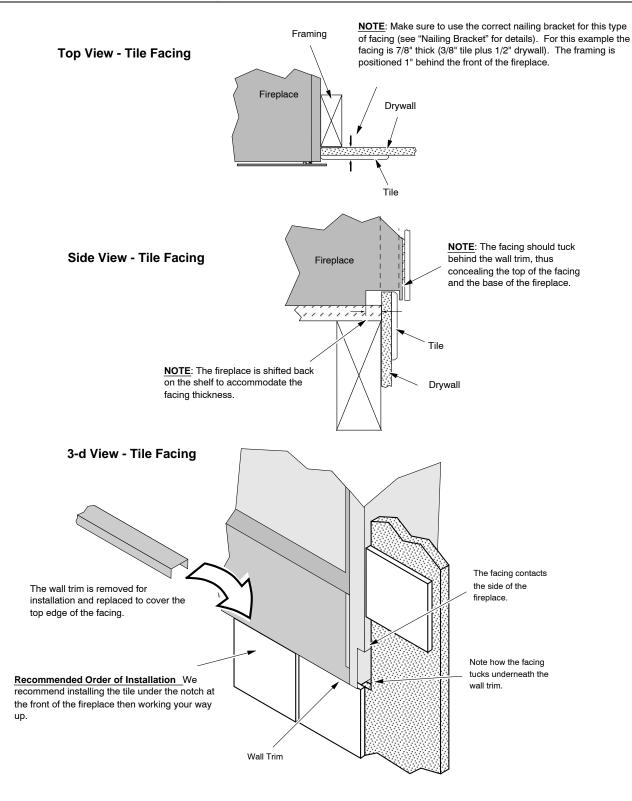


# Facing Detail – Drywall Facing



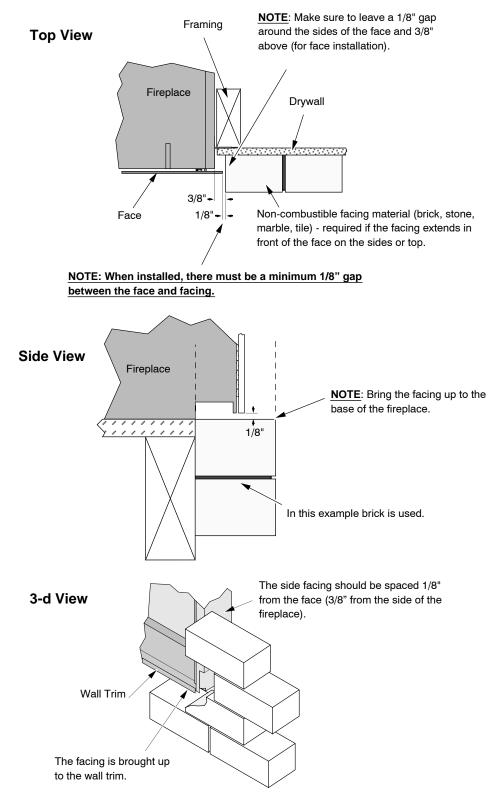
36

# Facing Detail – Tile Facing



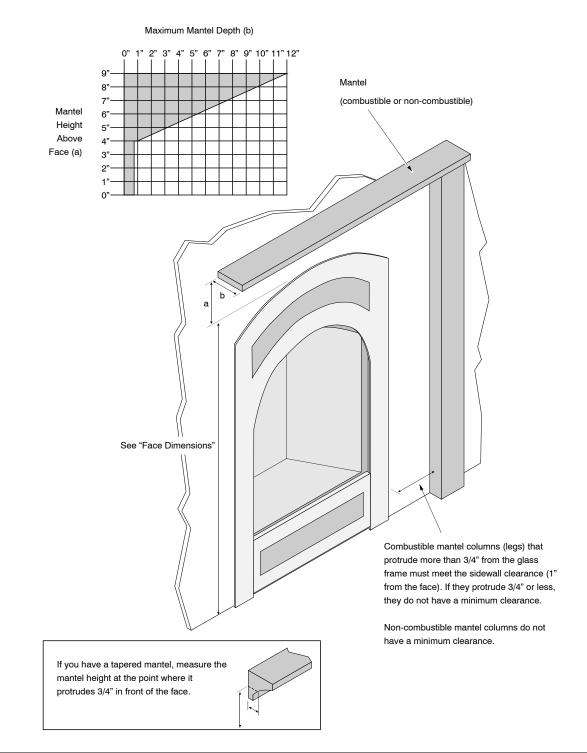
### Facing Detail – Facing Over 1" Thick (Brick)

- **WARNING**: Any facing that extends in front of the faceplate on the sides or top must be non-combustible.
- **NOTE**: A 3/8" gap is required above the face for face installation.



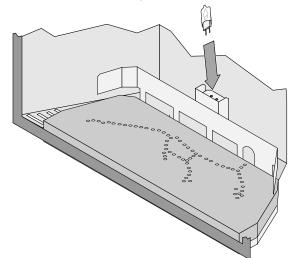
### Mantel Requirements

- Use the table below to determine the maximum mantel depth allowed. The mantel depth (measured from the face of the fireplace) must fall in the shaded portion of the table.
- Any material that protrudes more than 3/4" from the non-combustible facing is considered a mantel and must meet the mantel requirements.

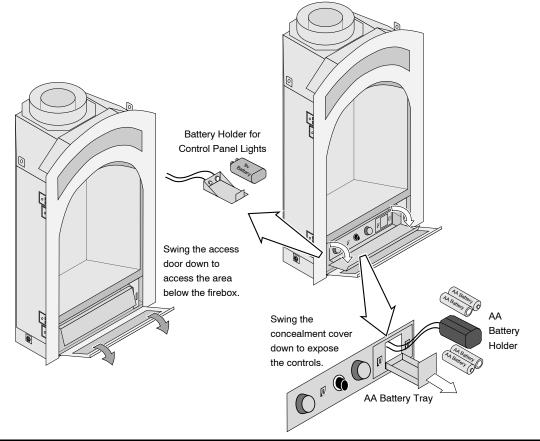


### Steps for Finalizing the Installation

- 1. Remove the glass (see page 41).
  - NOTE: If using propane (LP) convert the appliance prior to installing the logs.
- 2. We recommend you purge the gas line at this time (with the glass removed). This allows gas to be detected once it enters the firebox, ensuring gas does not build up.
- Make sure the accent light bulb is in place.
   NOTE: .Take care to not touch the bulb with your fingers (use a cloth or paper towel).



4. Install the four AA batteries (included in the owner's pack) into the battery holder (make sure they contact the terminals - see the illustration below). The AA batteries act as a power backup in case the household (AC) power goes out (they also power the comfort control). Install the 9v battery (included in the owner's pack) into control panel light assembly (see the illustration below). The battery holder is held in place with Velcro and may be removed for easier access.



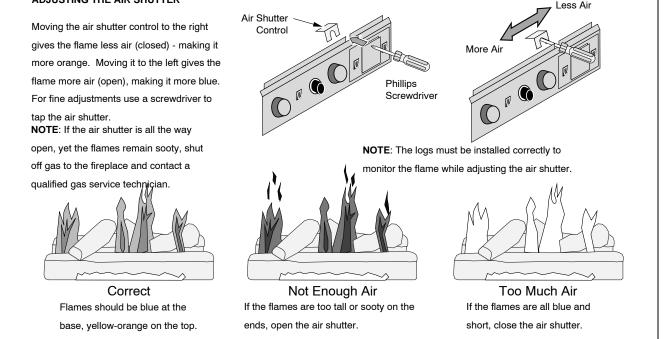
## 40 Finalizing the Installation (for qualified installers only)

- 5. Install the logs (see page 43).
- 6. Replace the glass.
- 7. Start the heater.
- 8. Leak test all gas joints.
- 9. Check the air shutter following the directions below.

### Air Shutter Adjustment

Let the heater burn for fifteen minutes (make sure the logs and glass are in place). The flames should be yellow with no sooting. Adjust the air shutter, if necessary, to achieve the correct looking flame.

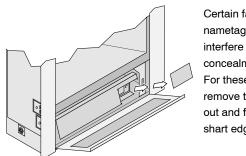
#### ADJUSTING THE AIR SHUTTER



 Turn the flame adjust knob to its highest position - the flames should not contact the top of the firebox. Check the flame on low position. The flames should burn off of each burner hole. If the heater does not work correctly, contact your Travis dealer for a remedy.

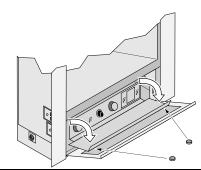
#### Special Instructions for Concealment Cover

#### CONCEALMENT COVER KNOCK-OUT PLATE



Certain faces have nametags that interfere with the concealment cover. For these faces, remove the knockout and file down any shart edges.

#### FELT TAB INSTALLATION

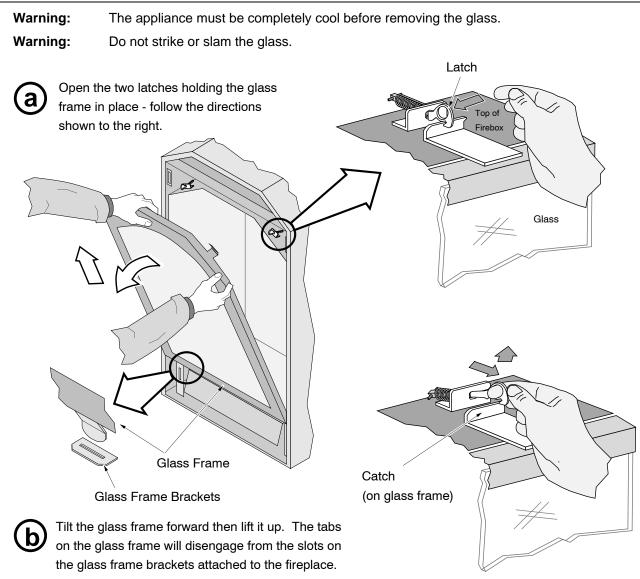


Certain faces may contact the concealment cover when it is open. Place the two felt tabs (included in owner's pack) on the concealment cover to prevent seratching.

11. Give this manual to the home owner for future reference and fully explain operation of this heater. For comprehensive operating and maintenance instructions, refer to the Owner's Manual (part # 100-01219).

ACID WASH WARNING: Before installing the faceplate, make sure any masonry that has been treated with acid wash has been properly neutralized (this is used primarily with brick faces). Acid wash (muriatic acid) is used to remove excess mortar. If not properly neutralized with an ammonia solution, the plated face may develop a permanent tarnish when the acid evaporates over time. Contact your dealer if uncertain your facing has been properly neutralized.

### **Glass Frame Removal and Installation**



#### Re-Attaching the Glass Frame:

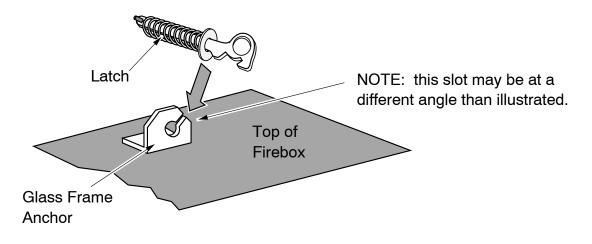
- a) Tilt the glass frame as shown above.
- b) Insert the tabs on the glass frame into the slots on the glass frame brackets (attached to the fireplace).
- c) Attach the two glass latches.

NOTE: Make sure the glass frame is all the way in place - it should be flush with the front of the fireplace when installed.

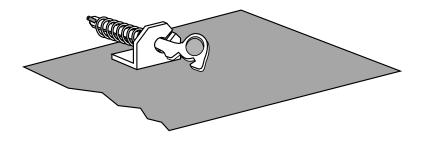
### Glass Frame Removal and Installation (continued)

The latch can come loose from glass frame anchor. This occurs when it is turned 1/4 turn when it is disengaged. Follow the directions below to re-install the latch if it becomes loose.

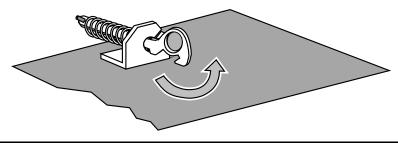
Hold the latch at an angle and insert it into the slot on the glass frame anchor.



Note how the washer on the latch fits behind the flange on the glass frame anchor.



Once fully inserted, turn the latch until it is upright.



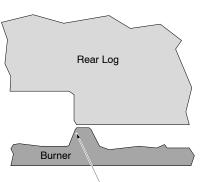
### Log Set Installation

### **Rear Log Installation**

Place the rear log with the left side flush to the edge of the burner and the right side flush to the metal deflector on the back edge of the burner. The bottom edge of the log should be located behind the burner ports (see the illustration below).



CROSS-SECTIONAL VIEW



Make sure the ledge on the burner lines up with stepped-down portion of the rear log.

#### **Right Log Installation**

The right log has two holes that accept the pins on the burner and rear log. When placed correctly there will be a minimal gap between the two logs. Make sure the bottom is placed so no burner ports are blocked and there is a gap to the back wall.



VIEW FROM ABOVE



**NOTE:** Make sure the right log does not rest against the back of the firebox (or liner). If it does, it will block light from the accent light, creating a large shadow. You may need to readjust the logs to insure a <sup>3</sup>/<sub>4</sub>" gap from the back.

#### **Right Twig Installation**

The right twig rests on the burner and leans against the indent on the right log. Install the twig as shown below. The bottom of the twig is placed one inch to the right of the center screw on the burner.



#### Left Twig Installation

Place the left twig as shown below. Note how the twig has two protrusions that insert into the screwholes on the burner. Make sure the twig does not block any burner holes. Place an ember of the remaining screw hole.





The two projections on the bottom of the twig insert into the screw holes on the burner.

Place an ember over this screw.

45

#### Log Installation Overview

Correct view of complete log installation.



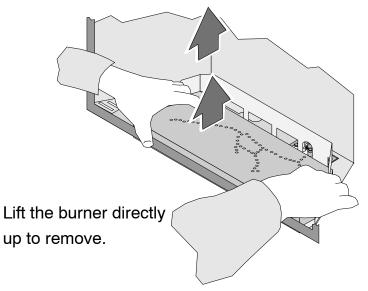
Place embers in the firebox corners and along the front edge of the burner. Do not place embers over burner holes or allow the embers to block airflow.

# 46 Finalizing the Installation (for qualified installers only)

### LP Conversion Instructions

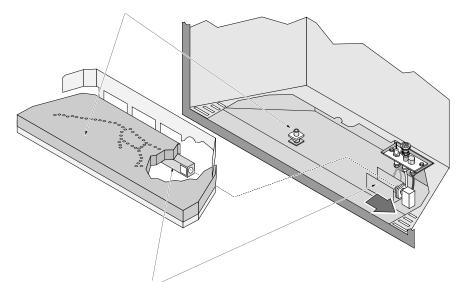
Install the conversion kit prior to installing the gas line to ensure proper gas use.

- 1 Remove the glass (see page 39). Remove the logs and embers (if installed page 43)
- 2 Remove the burner following the directions below.

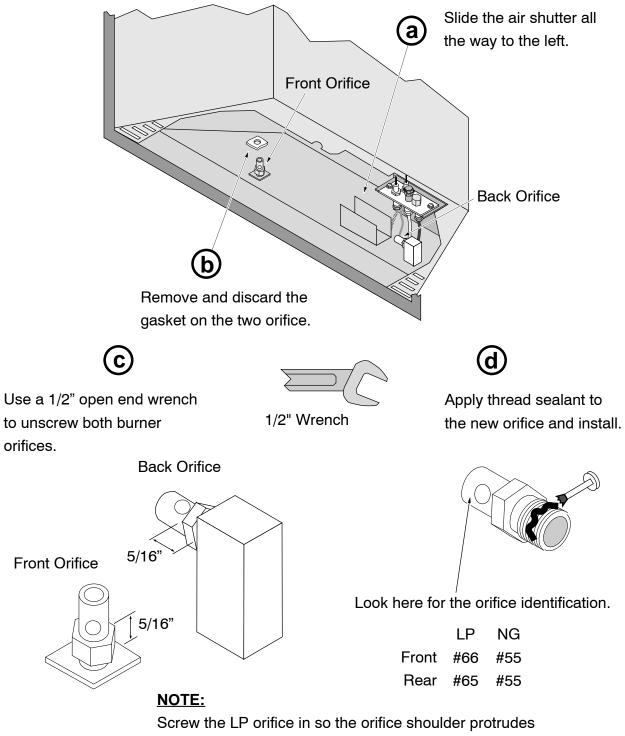


#### **Burner Replacement:**

Make sure the burner manifold inserts over the front (left) orifice.



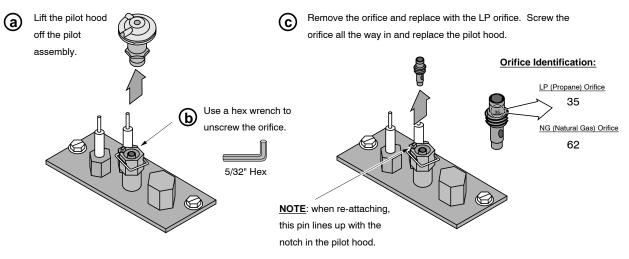
Make sure the burner is fully seated and pilot hood lines up with the burner holes at the rear edge of theburner.



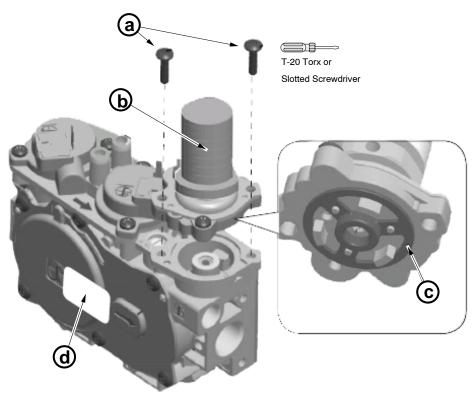
5/16" (indicating full insertion).

## Finalizing the Installation (for qualified installers only)

4 Remove the pilot orifice following the instructions below. Replace with the propane pilot orifice



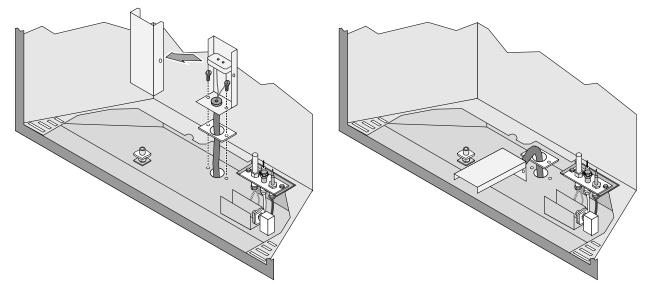
- 5 Replace the firebox components. Install the logs and embers. Replace the glass.
- 6 Remove and discard the screws (see "a" below) holding the stock regulator in place (see "b" below). Remove the stock regulator and gasket (see "c" below). Place the LP regulator in place, making sure the pre-fitted gasket (see"c" below) is in place. NOTE: There is a label on the base of the regulator knob indicating regulator type (NG or LP). Secure the regulator with the screws included with the regulator tighten to 25 lb-in of torque. Place the included label on the valve body where it can be easily seen to insure proper identification (see "d" below). NOTE: Leak test this area after the heater is installed, gas is connected, and the main burner is lit.



7 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leaktest all gas connections and the gas control valve.

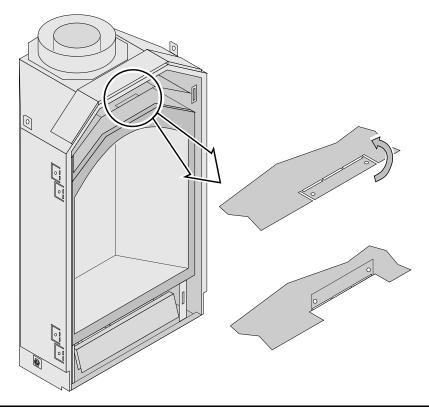
### Liner Installation Addenda

Before installing the optional liner, the accent light assembly will need to be disconnected and placed on the floor of the firebox (these instructions are not given with the kit). Before installing the liner, remove the burner, disconnect the accent light cover, unscrew the assembly, and rotate it forward out of the way (see illustration below).



### Aromatherapy Modification

If you are using the aromatherapy option with the 21 TRV, you will need to bend up the mounting flange on the front of the fireplace (see the illustration below). The aromatherapy extension assembly attaches to this flange.



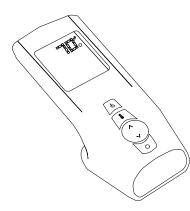
### GreenSmart<sup>™</sup> Remote Control Installation

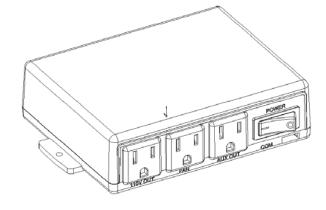
#### Packing List

- Transmitter
- Receiver (with Cover Plate & Switch)
- Fan Control Module
- Velcro
- LP or NG Stepper Motor (with screws and label attaches to Valve)
- Wire Harness
- (2) Power Leads
- (4) AA Batteries (inside receiver box)
- (2) #8 x ½" Machine Screws
- (2) Wire Ties
- Torx T-20 Wrench
- Wall Mount (for placing the transmitter on a wall)
- (2) Drywall anchors (for wall mount)
- (2) #8 x 3/8" Type B Screws

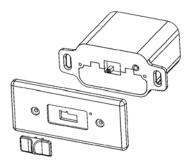
## Transmitter

## Fan Control Module



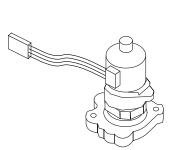


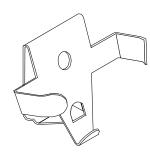
Receiver



Stepper Motor

### **Transmitter Wall Mount**

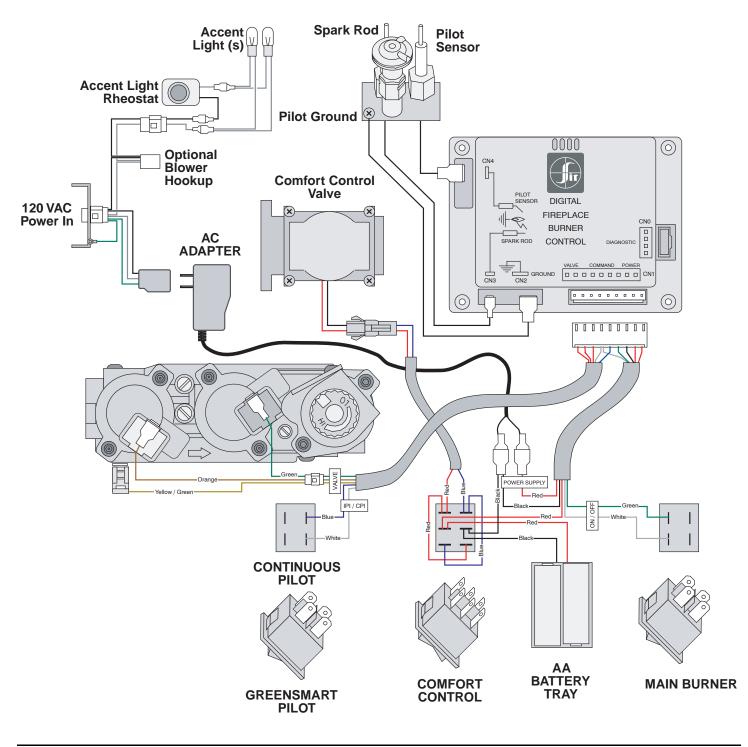




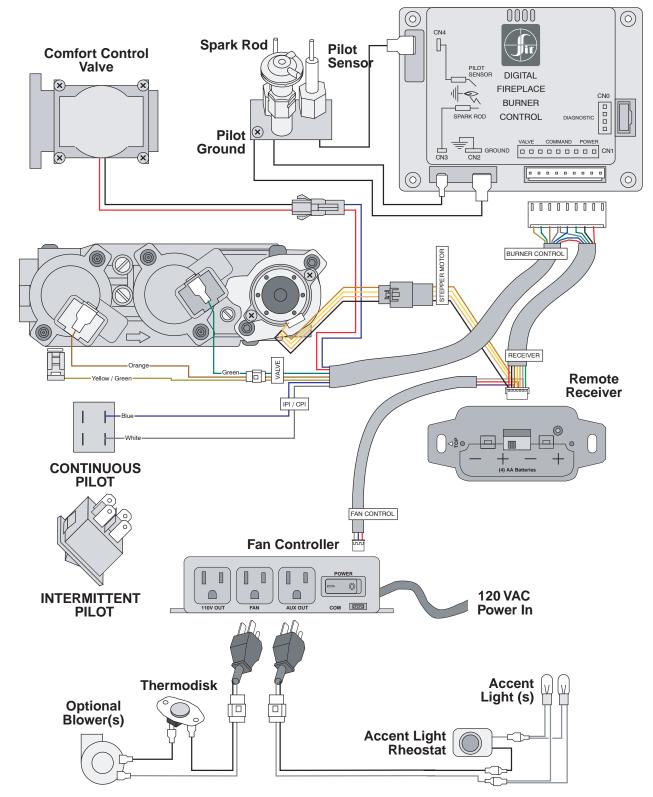
#### **Overview**

The GreenSmart remote installs onto a 21 fireplace and replaces the stock wiring harness. Before installing, familiarize yourself with the stock and updated wiring diagrams (see the illustrations on this page and and following page).

#### Stock Wiring Diagram



#### **GreenSmart Wiring Diagram**



#### Installation

 WARNING:
 Make sure power to the fireplace has been shut off prior to installation. Turn off gas to the appliance.

**NOTE**: Refer to the wiring diagram on page 52 while making wiring harness connections.

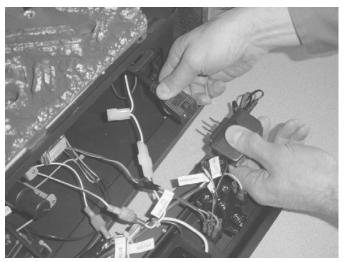
1 Unscrew the four screws holding the control cover in place (see photos below). Carefully remove the control cover and place it aside, leaving the wiring intact (see Figure 1).





Figure 1

2 Unplug the ac adapter from the power harness (see Figure 2). You can leave the ac adapter plugged into the wiring harness.



3 Unplug the molex connector for the accent light and comfort control valve connection

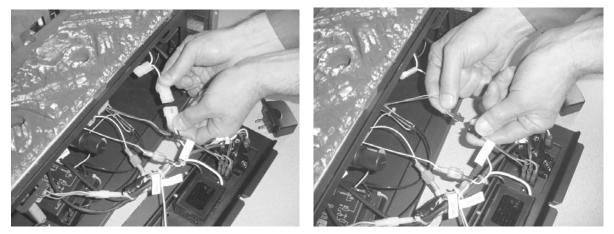


Figure 3

4 Disconnect the two quick-connects for the accent light (white wires)

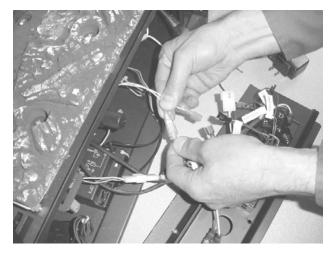
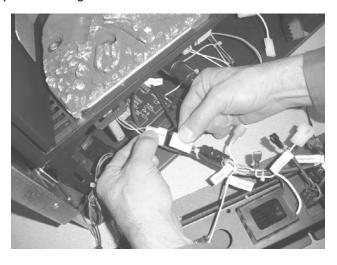


Figure 4

Disconnect the molex connector leading to the gas control valve (see Figure 5).
 <u>WARNING</u>: The tabs on the gas control valve are fragile. Take care when removing the molex connector to not pull or damage the wires or tabs.

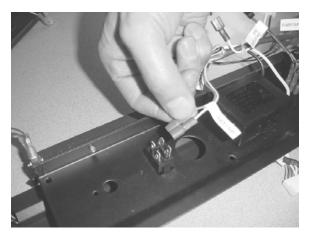


6 Disconnect the burner control connector from the fireplace burner control (see Figure 6).



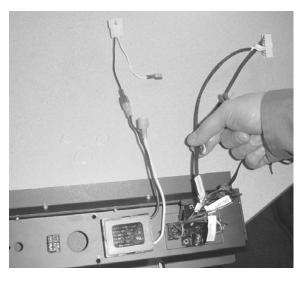
#### Figure 6

7 Disconnect the two leads on the back of the control panel for the IPI / CPI switch (continuous pilot / greensmart pilot – see Figure 7).



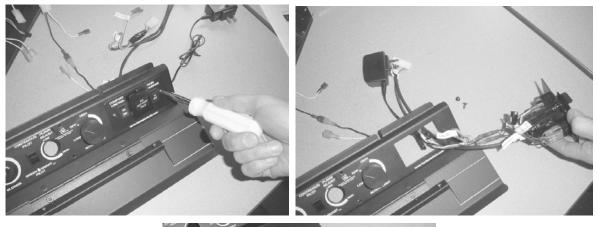
#### Figure 7

8 Carefully remove the lock-ties holding the wiring harness together. Separate the wiring harness sol the wires leading from the accent light rheostat are separated from the remaining wires (see Figure 8).



## **Optional Equipment** (for qualified installers only)

9 Unscrew the on/off/battery plate from the control panel (see Figure 9). Pull the plate and wiring forward through the control panel. The wiring and on/off/battery plate may be discarded.



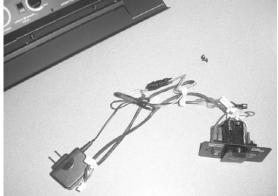


Figure 9

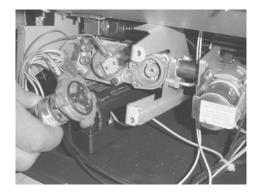
10 Use the included torx wrench to remove the stock regulator (see Figure 10). Make sure the rubber gasket behind the regulator is removed. These items may be discarded.



Figure 10

## **Optional Equipment** (for qualified installers only)

11 The stepper motor (adjustable regulator) has an installation sheet included with it – make sure to follow all of the directions. Place the stepper motor on the gas control valve (see Figure 11) – MAKE SURE IT IS CORRECTLY ORIENTED. Secure using the screws included with the motor (see Figure 12) – tighten to 25 Lb-inches. Leak test this area after installation to verify proper installation.



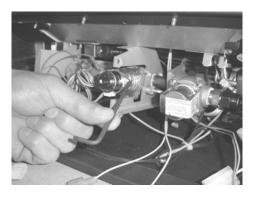




Figure 12

12 Place the GreenSmart wiring harness in front of the fireplace, noting the position of each connector (see .Figure 13).

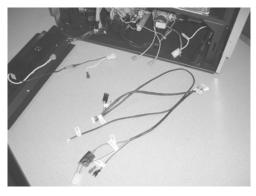
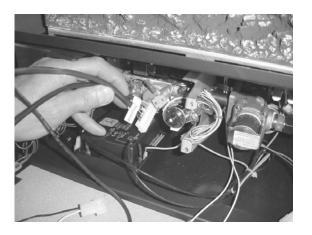


Figure 13

13 Attach the wiring harness to the burner control (see Figure 14). Attach the gas control valve molex connector (see Figure 15).



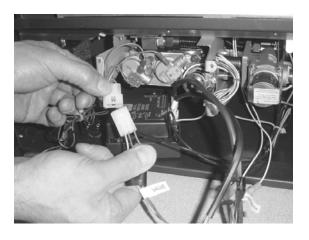
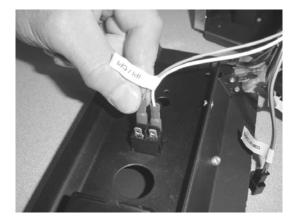


Figure 14

14 Attach the blue and white wires to the IPI/CPI switch (see Figure 16). Connect the wiring harness to the stepper motor (see Figure 17).



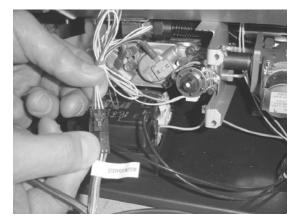


Figure 16



15 Attach the wiring harness to the comfort control valve connection (see Figure 18).

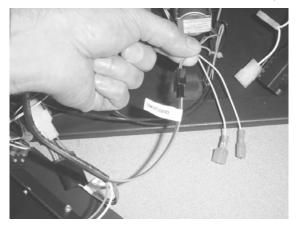
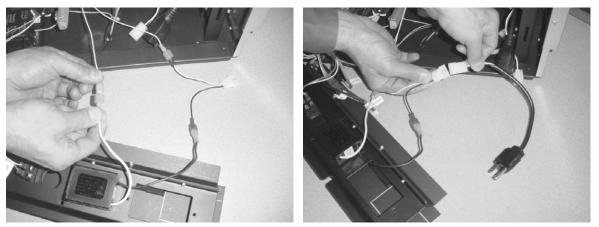
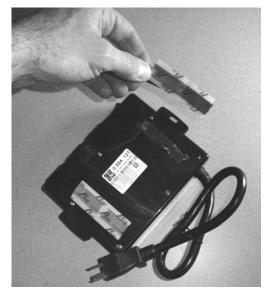


Figure 18

16 Locate the accent wires that were disconnected earlier. Connect these wires to the wiring on the control panel. The remote kit includes two power leads. Attach one of these leads to the molex connector for the accent light (see Figure 19 below).

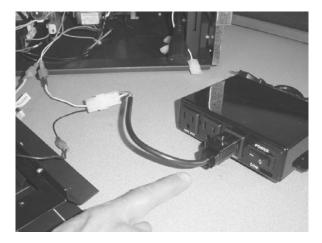


17 Remove the Velcro from the bottom of the fan controller. This allows the controller to sit lower.



#### Figure 20

18 Place the fan controller near the front of the fireplace. Plug the power lead from the accent light into the fan controller (make sure it is plugged into "AUX OUT" - see Figure 21). If you are using the the optional blower, attach the second power lead to the molex connector on the blower wiring harness. Plug this power lead into the fan controller (make sure it isplugged into "FAN" see Figure 22).



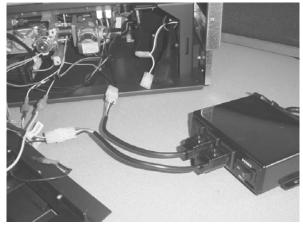
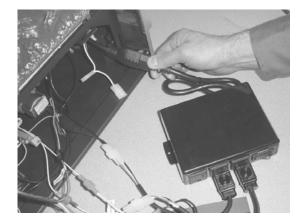


Figure 21

19 Attach the power cord on the fan controller to the receptacle on the fireplace (see Figure 23 below). Attach the connector labeled "FAN CONTOL" to the fan controller (see Figure 24 below).



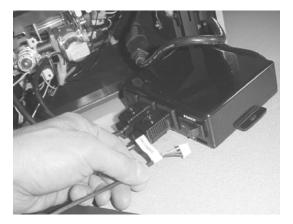


Figure 23

Figure 24

20 Before installing the fan controller, make sure the power switch is on ( "-" SYMBOL - see Figure 25). Slide the fan controller into place (see Figure 26). Tuck the power cord behind the controller so it rests below and to the side of the firebox – make sure the power cord or wiring do not contact the firebox or blower.

**<u>HINT</u>**: We have found that if you "Z-BEND" the power cord and tuck it behind the power inlet, it will then fit into place. Make sure the power cord is not directly over the front of the controller – the receiver must fit in this location.

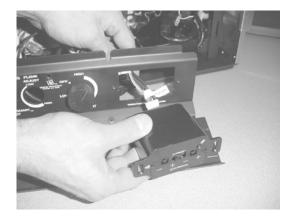




Figure 25

Figure 26

21 Pull the "RECEIVER" connector through the control panel and attach to the receiver (see Figure 27). Place batteries into the receiver and transmitter (see Figure 28).



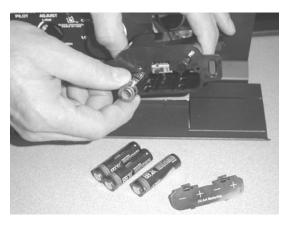


Figure 27



19 At this time the remote receiver is powered up. Make sure the continuous/intermittent pilot switch is set to "GreenSmart Pilot" (otherwise, the pilot will spark - see Figure 29). Calibrate the receiver to the transmitter (see Figure 30 - use a paperclip to press the "PRG" button, let it beep, then press any button on the transmitter – the receiver should beep 5 times – see the operating instructions for further details). We recommend you test the electric functions of the fireplace at this time with the control panel removed.





Figure 29

## **Optional Equipment** (for qualified installers only)

20 Attach the receiver to the control panel with the two counter-sunk screws included with the remote kit (see Figure 31). Place the receiver coverplate (and switch) over the receiver and attach with the two screws included with the receiver (see Figure 32)





Figure 31

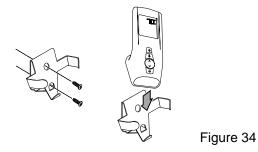


21 Carefully tuck the wiring behind the control panel. Use the included wire ties, if necessary, to keep all wiring from contacting any hot or moving components. Re-attach the control panel (see Figure 33)



Figure 33

A wall mount is included with this kit for the remote. It may be mounted to the wall for easy access and storage. Use the included drywall anchors (and screws) to secure it to the wall (see Figure 34).



23 Restore power to the fireplace and test operation of the remote (see the instructions included with the remote).

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