

Installation Manual

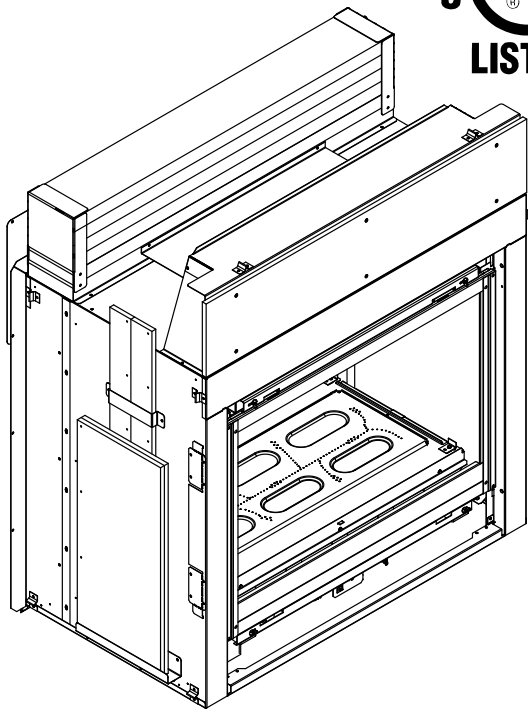
Installation and Appliance Setup

INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT discard this manual!



Model:
TWILIGHT-II-MDC



This appliance may be installed as an OEM installation in manufactured home (USA only) or mobile home and must be installed in accordance with the manufacturer's instructions and the *Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280* in the United States, or the *Standard for Installation in Mobile Homes, CAN/CSA Z240 MH Series*, in Canada.

This appliance is only for use with the type(s) of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

▲ WARNING:
FIRE OR EXPLOSION HAZARD
Failure to follow safety warnings exactly could result in serious injury, death, or property damage.

- **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.
 - Leave the building immediately.
 - 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.

! DANGER



HOT GLASS WILL CAUSE BURNS.

DO NOT TOUCH GLASS UNTIL COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS.

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

In the Commonwealth of Massachusetts installation must be performed by a licensed plumber or gas fitter.
See Table of Contents for location of additional Commonwealth of Massachusetts requirements.

▲ Safety Alert Key:

- **DANGER!** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- **WARNING!** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE:** Used to address practices not related to personal injury.

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→ = Contains updated information.

Installer Standard Work Checklist

Attention Installer: Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____ **Date Installed:** _____
Lot/Address: _____ **Location of Fireplace:** _____
Model (circle one): Twilight-II-MDC **Installer:** _____
Dealer/Distributor Phone # _____
Serial #: _____



WARNING! Risk of Fire or Explosion! Failure to install appliance according to these instructions can lead to a fire or explosion.

Appliance Install

	YES	IF NO, WHY?
Required non-combustible board is installed. (Pg. 15)	<input type="checkbox"/>	_____
Verified clearances to combustibles. (Pg. 9)	<input type="checkbox"/>	_____
Fireplace is leveled and secured. (Pg. 13)	<input type="checkbox"/>	_____

Electrical Section 6 (Pg 16-19)

Unswitched power (110-120 VAC) provided to the appliance.	<input type="checkbox"/>	_____
Switch wires properly installed.	<input type="checkbox"/>	_____

Gas Section 7 (Pg 20-21)

Proper appliance for fuel type.	<input type="checkbox"/>	_____
Was a conversion performed?	<input type="checkbox"/>	_____
Leak check performed and inlet pressure verified.	<input type="checkbox"/>	_____
Verified proper air shutter setting for installation type.	<input type="checkbox"/>	_____

Finishing Section 8 (Pg 22-29)

Combustible materials not installed in non-combustible areas.	<input type="checkbox"/>	_____
Verified all clearances meet installation manual requirements.	<input type="checkbox"/>	_____
Mantels and wall projections comply with installation manual requirements.	<input type="checkbox"/>	_____

Appliance Setup Section 9 (Pg 30-32)

All packaging and protective materials removed (inside & outside of appliance).	<input type="checkbox"/>	_____
Refractories, logs, media and embers installed correctly.	<input type="checkbox"/>	_____
Glass assembly installed and secured.	<input type="checkbox"/>	_____
Accessories installed properly.	<input type="checkbox"/>	_____
Mesh, doors, or decorative front properly installed.	<input type="checkbox"/>	_____
Manual bag and all of its contents are removed from inside/under the appliance and given to party responsible for use and operation.	<input type="checkbox"/>	_____
Started appliance and verified no gas leaks exist.	<input type="checkbox"/>	_____

Hearth & Home Technologies recommends the following:

- Photographing the installation and copying this checklist for your file.
- That this checklist remain visible at all times on the appliance until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/ Builder/ Other Trades, etc) and corrective action needed _____

Comments Communicated to party responsible _____ by _____ on _____
 (Builder / Gen. Contractor/) (Installer) (Date)

→ = Contains updated information.

2369-972 Rev. C 3/17

1 Product Specific and Important Safety Information

A. Appliance Certification

MODEL: TWILIGHT-II-MDC
LABORATORY: Underwriters Laboratories, Inc. (UL)
TYPE: Direct Vent Gas Appliance
STANDARD: ANSI Z21.50-2016 • CSA2.22-2016

This product is listed to ANSI standards for “Vented Gas Fireplaces” and applicable sections of “Gas Burning Heating Appliances for Manufactured Homes and Recreational Vehicles”, and “Gas Fired Appliances for Use at High Altitudes”.

NOTICE: This installation must conform with local codes. In the absence of local codes you must comply with the National Fuel Gas Code, ANSI Z223.1-latest edition in the U.S.A. and the CAN/CGA B149 Installation Codes in Canada.

NOT INTENDED FOR USE AS A HEAT SOURCE.

This appliance is decorative in nature and not intended to be a source of heat.

NOT FOR USE WITH SOLID FUEL.

This appliance is not intended to burn solid fuel.

B. Glass Specifications

Tempered Glass (Interior Glass)

Hearth & Home Technologies appliances manufactured with tempered glass may be installed in hazardous locations such as bathtub enclosures as defined by the Consumer Product Safety Commission (CPSC). The tempered glass has been tested and certified to the requirements of **ANSI Z97.1** and **CPSC 16 CFR 1202** (Safety Glazing Certification Council **SGCC# 1595** and **1597**. Architectural Testing, Inc. Reports **02-31919.01** and **02-31917.01**).

This statement is in compliance with **CPSC 16 CFR Section 1201.5** “Certification and labeling requirements” which refers to **15 U.S. Code (USC) 2063** stating “...Such certificate shall accompany the product or shall otherwise be furnished to any distributor or retailer to whom the product is delivered.”

Some local building codes require the use of tempered glass with permanent marking in such locations. Glass meeting this requirement is available from the factory. Please contact your dealer or distributor to order.

Ceramic Glass (Exterior Glass)

This appliance is equipped with 5 mm ceramic glass. Replace glass only with 5 mm ceramic glass. Please contact your dealer for replacement glass.

C. Thermal Performance Data

Model: TWILIGHT-II-MDC		
Sound Transmission Class (STC)	Thermal Resistance (R Value)	Thermal Conductivity (K Value)
27	0.8hr-sq ft-°F/BTU	1.25 BTU-in/hr-sq ft-°F

D. Air Infiltration, Water Resistance and Structural Tests

The Hearth & Home Technologies TWILIGHT-II-MDC Indoor/Outdoor Appliance unit was tested to the following ASTM standards at the Stork Twin City Testing laboratory.

Air infiltration test **ASTM:E283-(04)**. The sample was tested at 1.57 psf (equivalent to a 25-mph windload). Water resistance test **ASTM:E331-00**. The test specimen was tested at the requested test pressures of 8.0 & 25.0 psf. Structural test **ASTM:E330-02**. The unit was tested to a design pressure of 50-psf, a test pressure of 75-psf.

Test Results

Model	Air Infiltration (ASTM E283)	Water Resistance (ASTM E331)	Structural Load (ASTM E330)
TWILIGHT-II-MDC Indoor/Outdoor	0.07CFM/ft2	No leakage @ 8psf & 25psf	No Blowout @ 75psf

E. BTU Specifications

Model U.S. (0-2000 FT) or Canada (2000-4500 FT)	Input BTU/h	Orifice Size (DMS)
TWILIGHT-II-MDC (NG)	US	38,000
	CAN	34,200
TWILIGHT-II-MDC (Propane)	US	50
	CAN	33,300

F. High Altitude Installations

NOTICE: *If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.*

When installing above 2000 feet elevation:

- In the USA: Reduce input rate 4% for each 1000 feet above 2000 feet.
- In CANADA: Reduce input rate 10% for elevations between 2000 feet and 4500 feet. Above 4500 feet, consult local gas utility.

Check with your local gas utility to determine proper orifice size.

G. Non-Combustible Materials Specification

Material which will not ignite and burn. Such materials are those consisting entirely of steel, iron, brick, tile, concrete, slate, glass or plasters, or any combination thereof.

Materials that are reported as passing **ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 °C** shall be considered non-combustible materials.

H. Combustible Materials Specification


Materials made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that can ignite and burn, whether flame proofed or not, or plastered or unplastered shall be considered combustible materials.

I. Electrical Codes

NOTICE: *This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with **National Electric Code ANSI/NFPA 70-latest edition** or the **Canadian Electric Code CSA C22.1**.*

- A 110/120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection, in compliance with the applicable electrical codes, when it is installed in locations such as in bathrooms or near sinks.

J. California



WARNING: This product and the fuels used to operate this product (liquid propane or natural gas), and the products of combustion of such fuels, can expose you to chemicals including benzene, which is known to the State of California to cause cancer and reproductive harm. For more information go to: www.P65Warnings.ca.gov.

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

K. 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 gas fitter 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 gas fitter 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) in. 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.

2 Getting Started

A. Design and Installation Considerations

Hearth & Home Technologies direct vent gas appliances are designed to operate with all combustion air siphoned from outside of the building and all exhaust gases expelled to the outside. No additional outside air source is required.

The TWILIGHT-II-MDC has been carefully engineered to provide a unique fireplace experience. Since it is different than any other product on the market, care must be taken when installing this appliance so that our customer does not experience undesirable performance or conditions.

1. Install the appliance according to this Installation Manual paying particular attention to flashing and sealing instructions.
2. In the cold northern climates pay attention to exposures and prevailing wind conditions when locating the appliance, the same as you would for locating exterior windows and doors.

The TWILIGHT-II-MDC has the thermal characteristics of a high quality window system. Temperatures near the appliance will be cooler than what is realized with a fully insulated wall.

Operation of the appliance will eliminate any cool drafts and will provide the room with a comfortable ambiance.

Installation MUST comply with local, regional, state and national codes and regulations. Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

Before installing, determine the following:

- Where the appliance is to be installed.
- Gas supply piping requirements.
- Electrical wiring requirements.
- Framing and finishing details.
- Whether optional accessories—devices such as a fan, wall switch, or remote control—are desired.

Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.



Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. For assistance or additional information, consult a qualified service technician, service agency or your dealer.

B. Tools and Supplies Needed

Before beginning the installation be sure that the following tools and building supplies are available.

- | | |
|--------------|------------------------------------|
| Tape measure | Framing material |
| Pliers | High temperature caulking material |
| Hammer | Phillips screwdriver |
| Gloves | Framing square |
| Voltmeter | Electric drill and bits (1/4 in.) |
| Plumb line | Safety glasses |
| Level | Reciprocating saw |
| Manometer | Flat blade screwdriver |
- Non-corrosive leak check solution
1/2 - 3/4 in. length, #6 or #8 Self-drilling screws
One 1/4 in. female connection (for optional fan).

C. Inspect Appliance and Components

- Carefully remove the appliance and components from the packaging.
- The decorative doors and fronts may be shipped in separate packages.
- Report to your dealer any parts damaged in shipment, particularly the condition of the glass.
- **Read all of the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**

WARNING! Risk of Fire or Explosion! Damaged parts could impair safe operation. DO NOT install damaged, incomplete or substitute components. Keep appliance dry.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance or vent system component.
- Modification of the appliance or vent system.
- Installation other than as instructed by Hearth & Home Technologies.
- Improper positioning of the gas logs or the glass door.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.

Any such action may cause a fire hazard.

WARNING! Risk of Fire, Explosion or Electric Shock! DO NOT use this appliance if any part has been under water. Call a qualified service technician to inspect the appliance and to replace any part of the control system and/or gas control which has been under water.

3 Framing and Clearances

A. Appliance Dimension Diagram

Dimensions are actual appliance dimensions. Use for reference only.

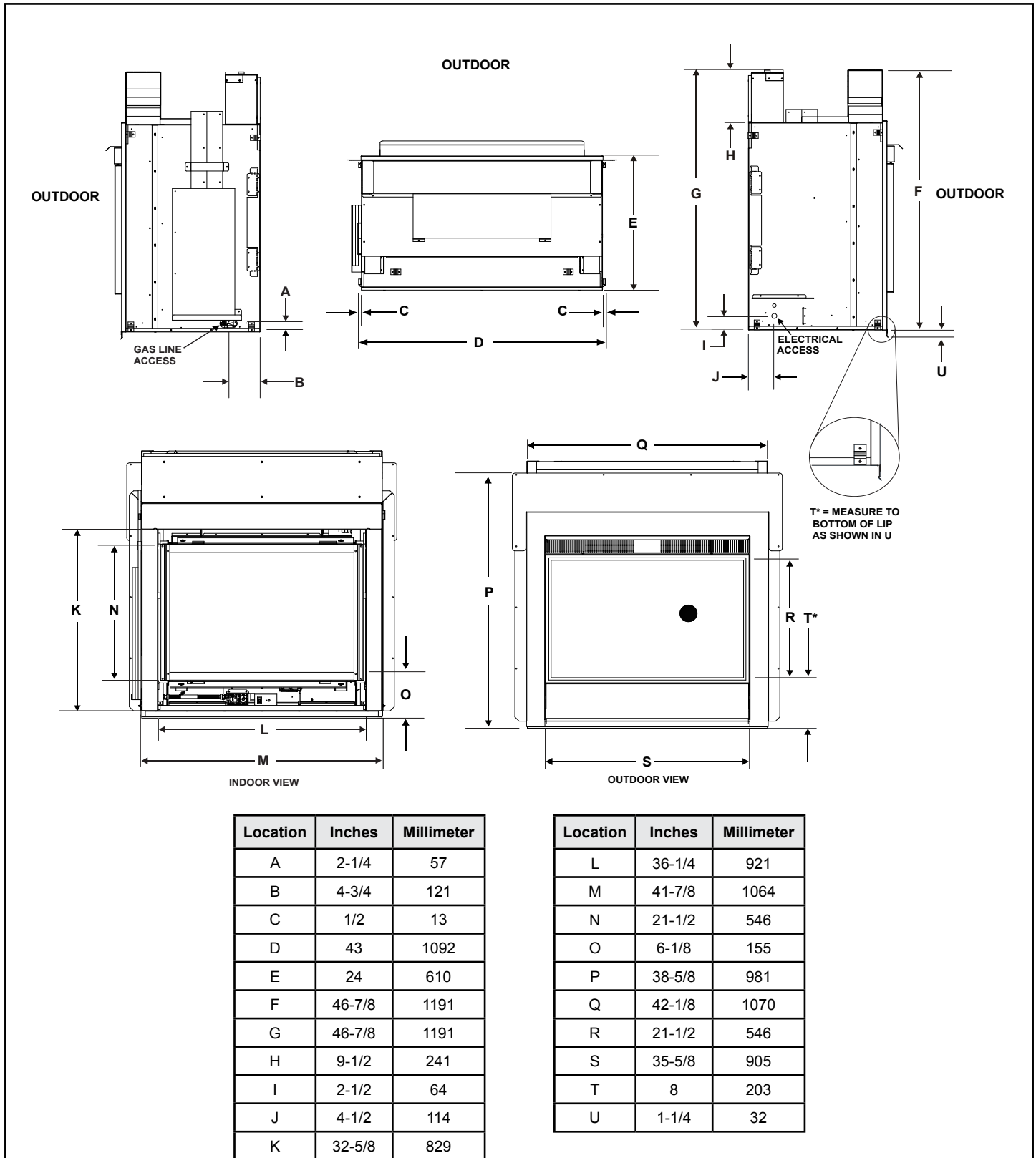


Figure 3.1 Appliance Dimensions

B. Clearances to Combustibles

When selecting a location for the appliance it is important to consider the required clearances to walls. See Figure 3.2.

WARNING! Risk of Fire or Burns! Provide adequate clearance around air openings and for service access. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

NOTICE: Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY. Illustrations/diagrams are not drawn to scale. Actual installation may vary due to individual design preference.

WARNING! Risk of Fire! The exterior side of the TWILIGHT-II-MDC CANNOT be recessed into the framing.

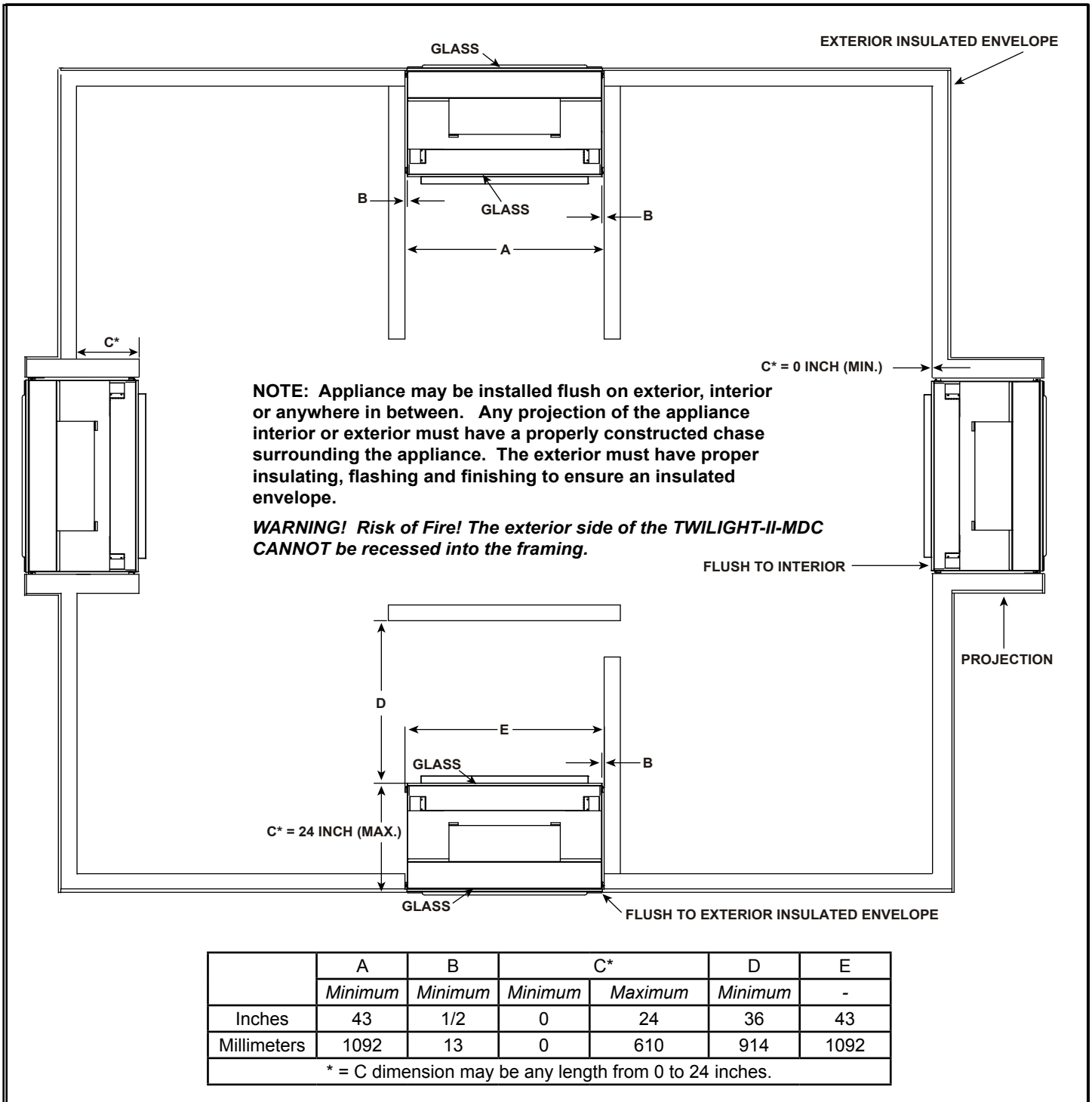
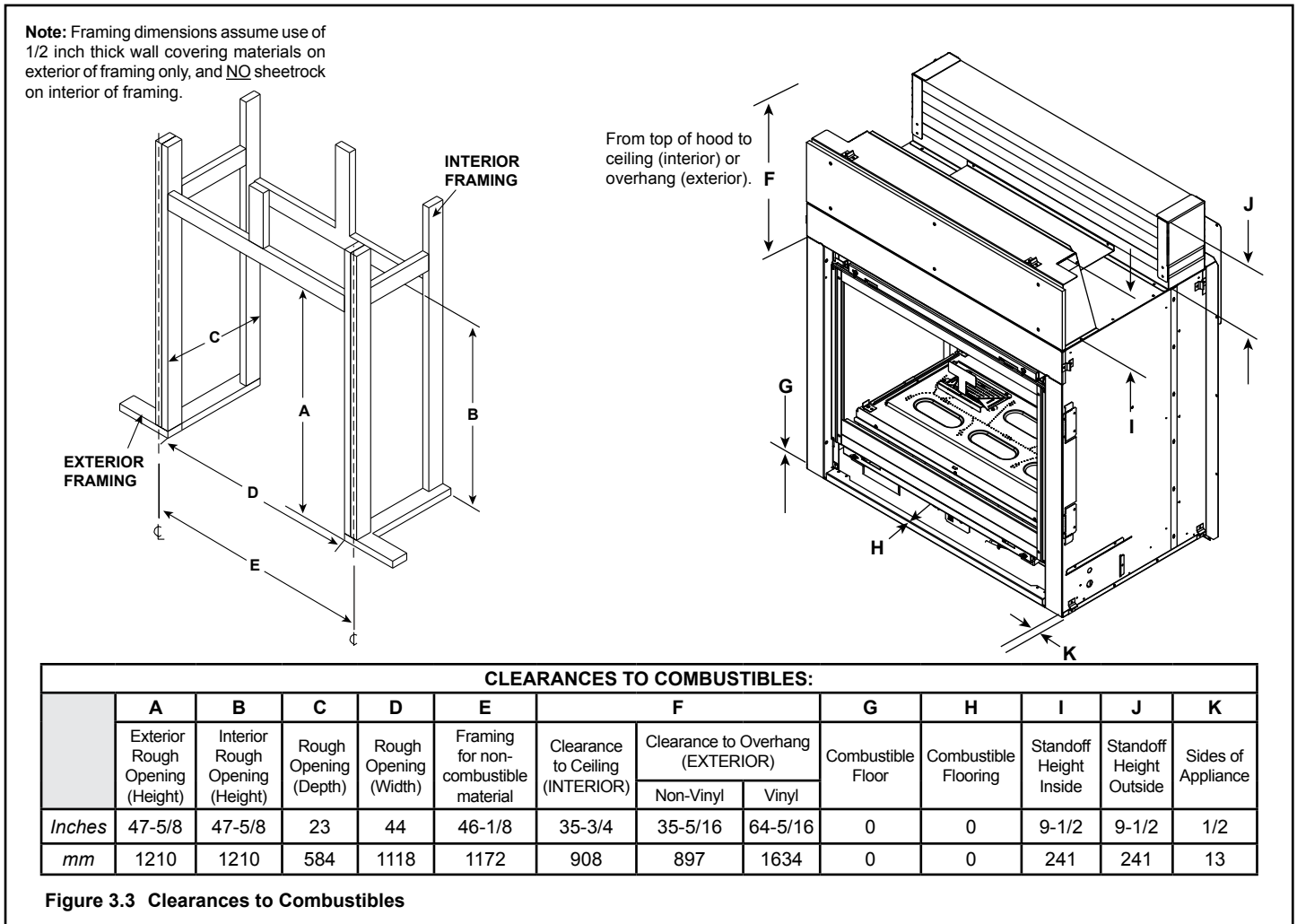
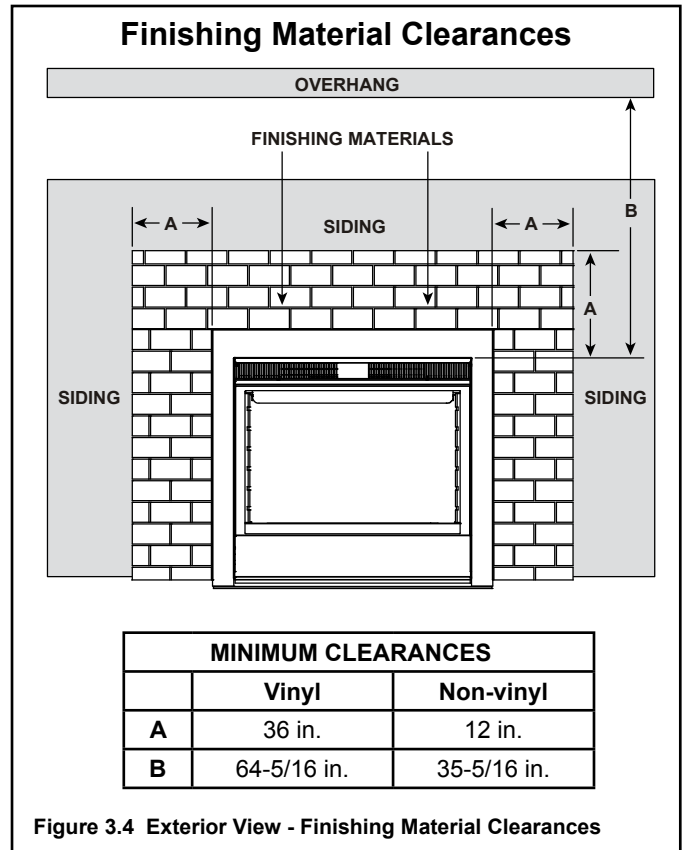


Figure 3.2 Appliance Locations

NOTICE: Install appliance on hard metal or wood surfaces extending full width and depth. **DO NOT** install directly on carpeting, vinyl, tile or any combustible material other than wood.

WARNING! Risk of Fire! Prevent contact with vapor barriers and sagging or loose insulation. See Section 5.B "Placing Insulation in Framing" for exception to factory-supplied insulation.

- Locate and install appliance to all clearance specifications in manual.
- The chase must be properly blocked to prevent blown insulation or other combustibles from entering and making contact with fireplace.
- Failure to maintain airspace may cause overheating and a fire.
- Reference Figure 3.2, Figure 3.3 and Figure 3.4 for clearance specifications.



4 Termination Location and Vent Information

A. Chimney Diagram

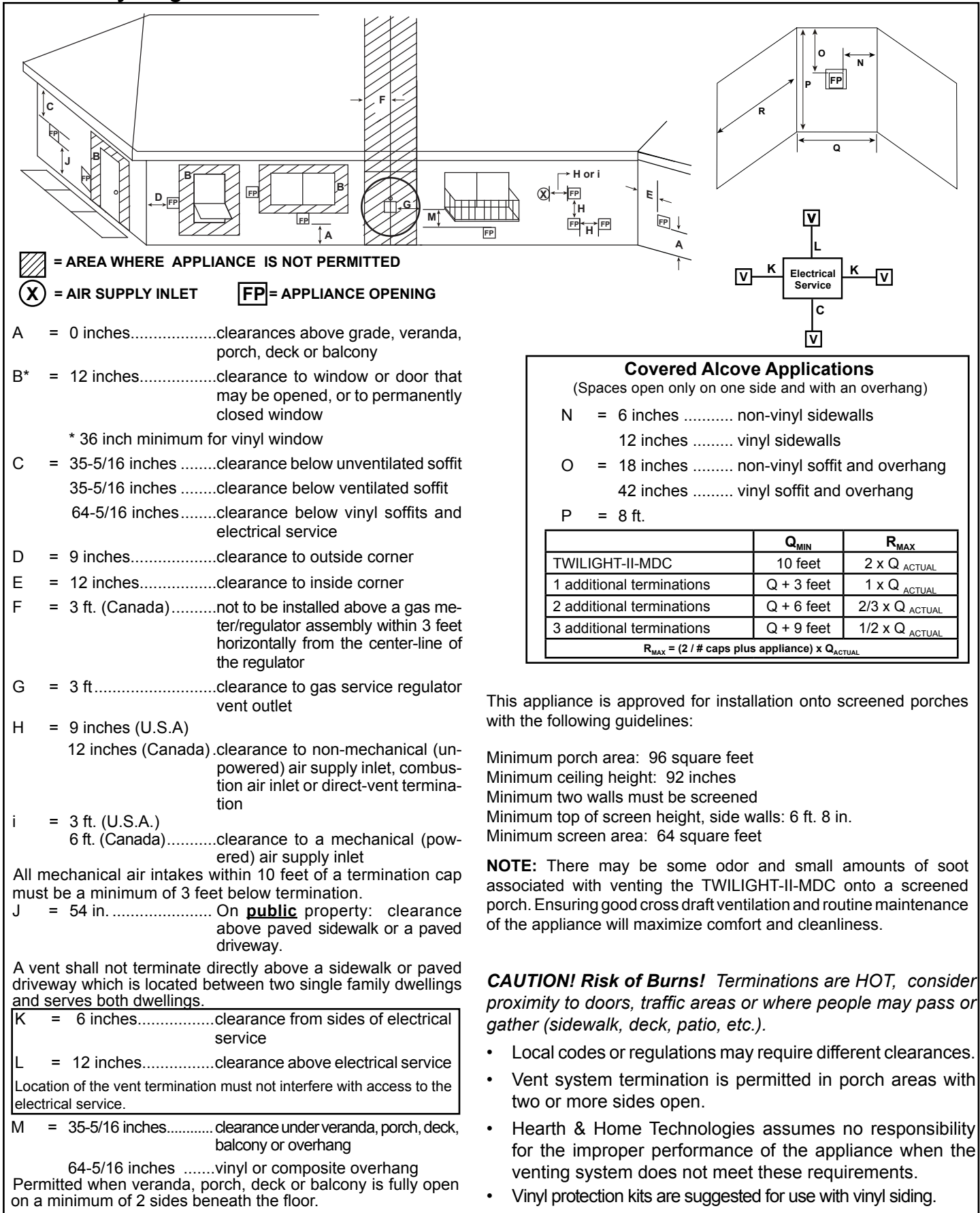


Figure 4.1 Minimum Clearances for Termination

5 Appliance Preparation

A. Removing Non-combustible Facing Material Assembly

The non-combustible assembly is located on right-hand side of appliance (when looking from outdoor side of appliance).

CAUTION

- Handle with care.
- Non-combustible material may be damaged if dropped.

- Hold non-combustible pieces in place.
- Remove and save two screws from upper bracket.
- Remove non-combustible pieces.
- Remove and save three screws from lower bracket.
- Discard brackets.
- Replace screws in holes where brackets were attached to appliance.

CAUTION

- Handle with care.
- Avoid damaging protruding edges on outdoor side of appliance.

B. Securing and Leveling the Appliance

⚠ WARNING



- Fire Risk.
- Prevent contact with sagging, loose insulation.
 - Do NOT install against vapor barriers or exposed insulation.

Placing Metal Hearth Strip

The metal hearth strip (approximately 46 inches x 4 inches) is used to provide added protection where appliance and outer structure meet. See Figure 5.1.

- Trim metal hearth strip to fit rough opening width. Reference dimension "D" in Figure 3.3.
- Place a generous bead of silicone caulk into the corner of the protective hearth strip.
- Place the metal strip onto the structure where the outer edge of the appliance will sit. It should overlap building paper to prevent water infiltration.

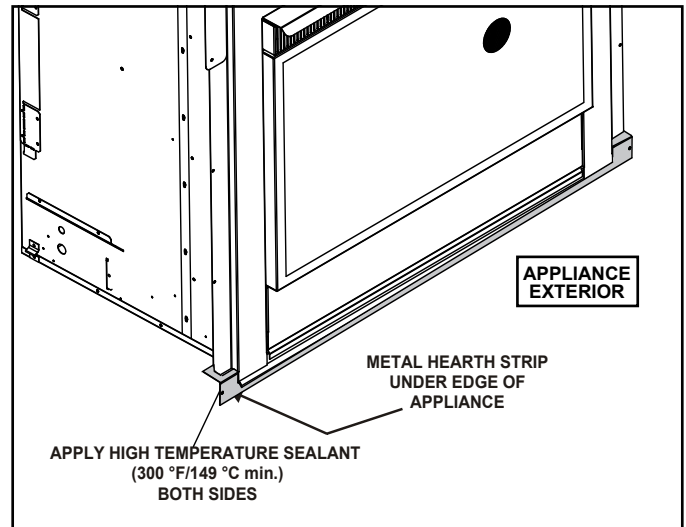


Figure 5.1 Positioning the Metal Hearth Strip

Placing Insulation in Framing

Insulation material is shipped with this appliance. It is packaged and placed on top of the appliance.

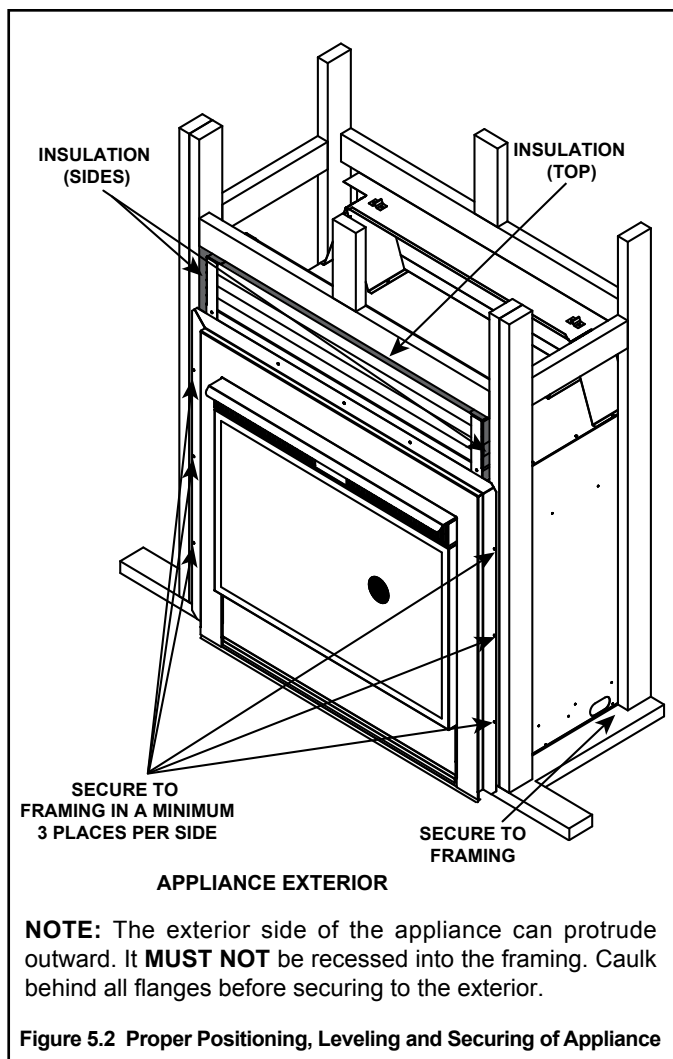
- Split the insulation material into four pieces.
- Place the insulation material on the top (two pieces) and sides (one piece per side) of the appliance, between the appliance and the framing studs. See Figure 5.2.

Placing and Securing Appliance

Place the appliance into position. Make sure flashing edges on the outdoor surround fit up tight to the framing.

The diagram shows how to properly position, level, and secure the appliance (see Figure 5.2). Nailing tabs are provided to secure the appliance to the framing members.

- Caulk behind flanges before securing to framing.
- Place the appliance into position.
- Level the appliance from side to side and front to back.
- Shim the appliance as necessary. It is acceptable to use wood shims.
- Keep nailing tabs flush with the framing.
- Secure the appliance to the framing by using nails or screws through the nailing tabs.



CAUTION

Do NOT notch into the framing around the appliance spacers.

Placing Flashing and Sheathing

Apply high temperature silicone sealant to corner edges of fireplace flange (see Figure 5.3).

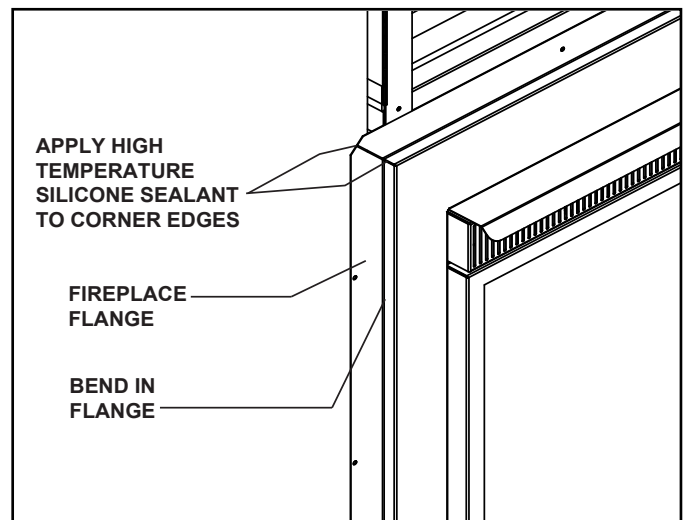


Figure 5.3 Application of High Temperature Sealant

Install outdoor flashing header (sheet metal piece removed from shipping pallet). Place over upper portion of shroud flange. Line up holes on shroud sides (see Figure 5.4).

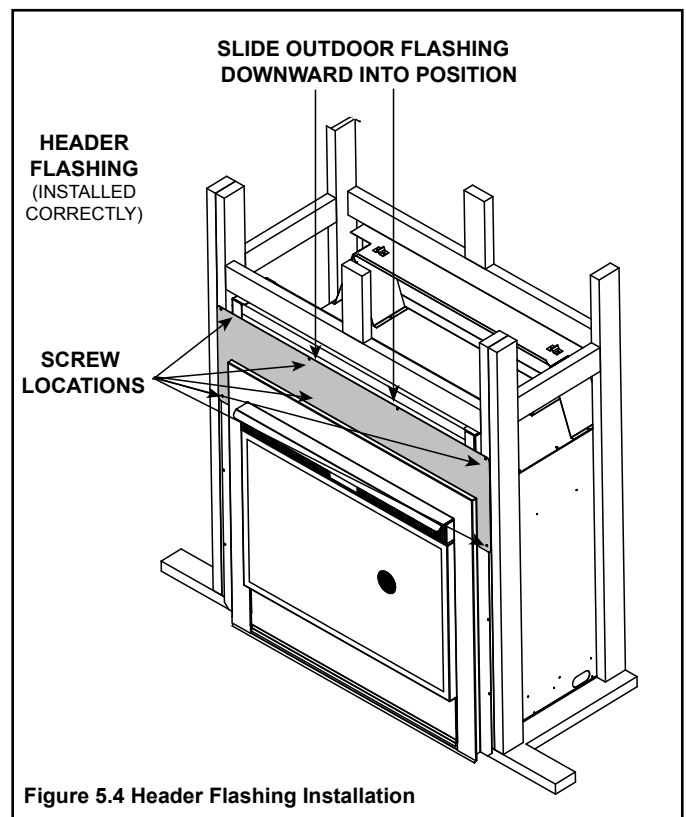


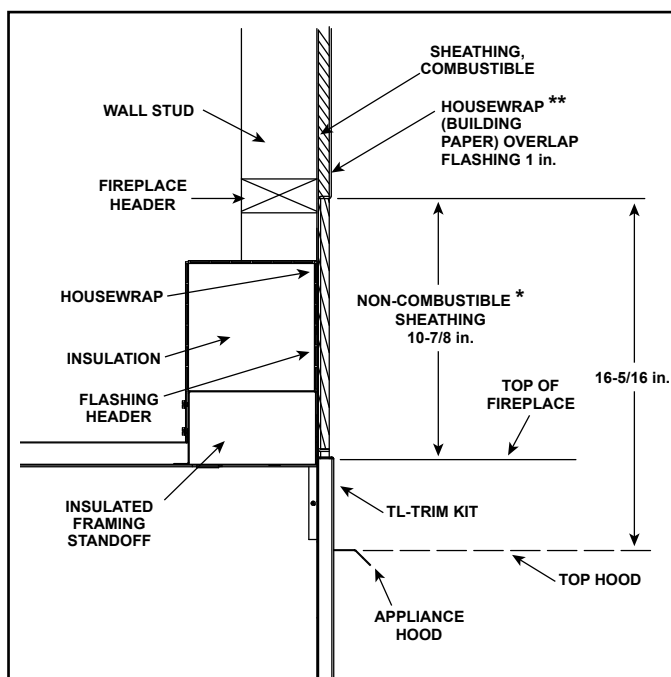
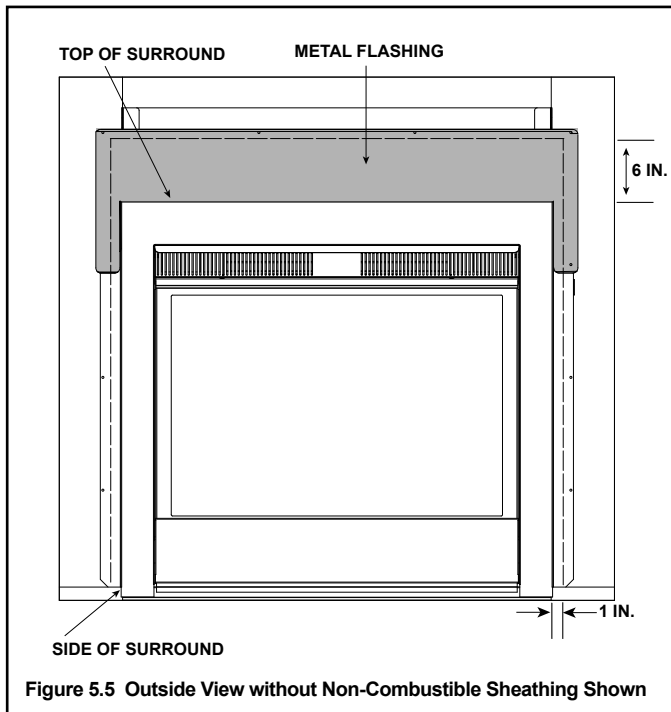
Figure 5.4 Header Flashing Installation

Seal header flashing to exterior of building using high temperature silicone sealant. Attach to building using holes provided on the top of the left and right sides of outdoor flashing (see Figure 5.4).

Apply housewrap or building paper

For placement of combustible housewrap or building paper and non-combustible sheathing for the outside wall see Figures 5.5 and 5.6.

Special care should be taken when choosing building materials for weatherproofing (i.e. building wraps, sealant tapes, liquid sealants, rubberized flashings, etc.). All sealant materials or building wraps installed within 6 inches of the top and 1 inch on the sides of the fireplace surround must be approved to a minimum temperature of 225 °F continuous exposure. Consult the material's manufacturer to ensure product compliance.

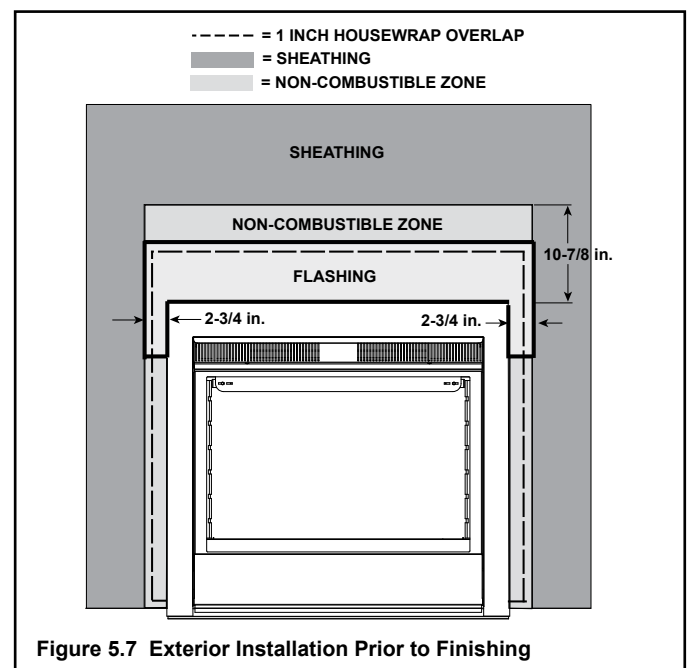


* **NOTE:** All finishing materials on top of exterior sheathing must be non-combustible for a minimum of 10-7/8 inches above and 2-3/4 inches on both sides of the exterior face of the appliance. This non-combustible finishing material can be up to a maximum of 6 inches thick (6 inches maximum horizontal overhang) to allow for brick and stone alcoves (see Figure 5.5).

** **NOTE:** Combustible house wrap or building paper **MUST NOT** extend over the outside of non-combustible sheathing, and **MAY** extend over the flashing behind non-combustible sheathing a maximum of 1 inch. Use high temp silicone or sealant recommended by the manufacturer of the housewrap to seal between combustible sheathing house wrap and non-combustible sheathing. The sealant material used within 6 inches of the top and 1 inch on the sides of the fireplace surround must be approved to a minimum temperature of 225 °F continuous exposure.

Once the appliance is in place, use enough high temperature silicone sealant or manufacturer specified sealant (approved to a minimum of 225 °F) to make a water tight seal between outdoor surround and exterior sheathing.

Face the perimeter of the appliance with non-combustible sheathing over shroud flanges and flashing. See Figure 5.7 for non-combustible zone.



⚠ WARNING

Risk of Fire

- Non-combustible clearances must be maintained.
- Sheetrock, wood or other combustibles must NOT be used as sheathing or facing in the non-combustible zone.
- See **Sections 3 and 8** for proper clearances.
- See **Section 1** for combustible /non-combustible definitions.

C. Installing Non-combustible Facing Material (Outdoor Side)

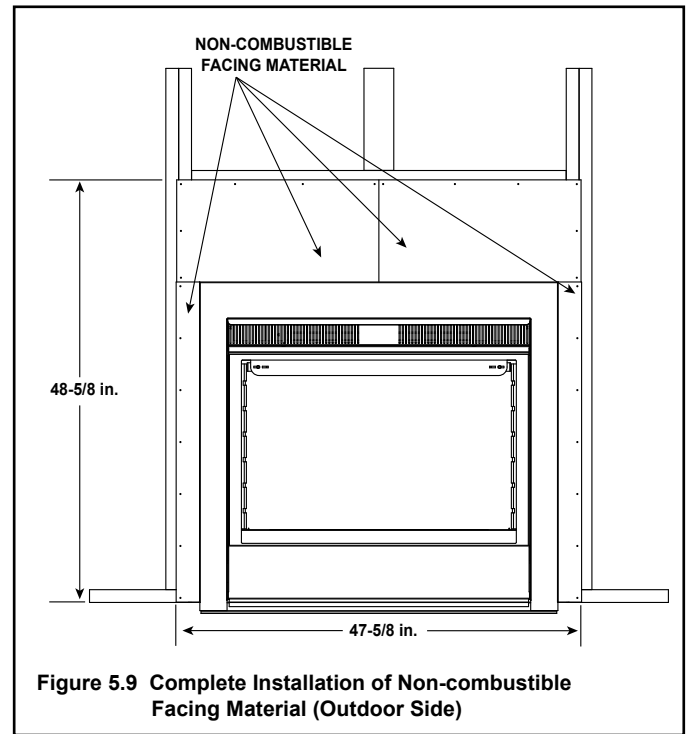
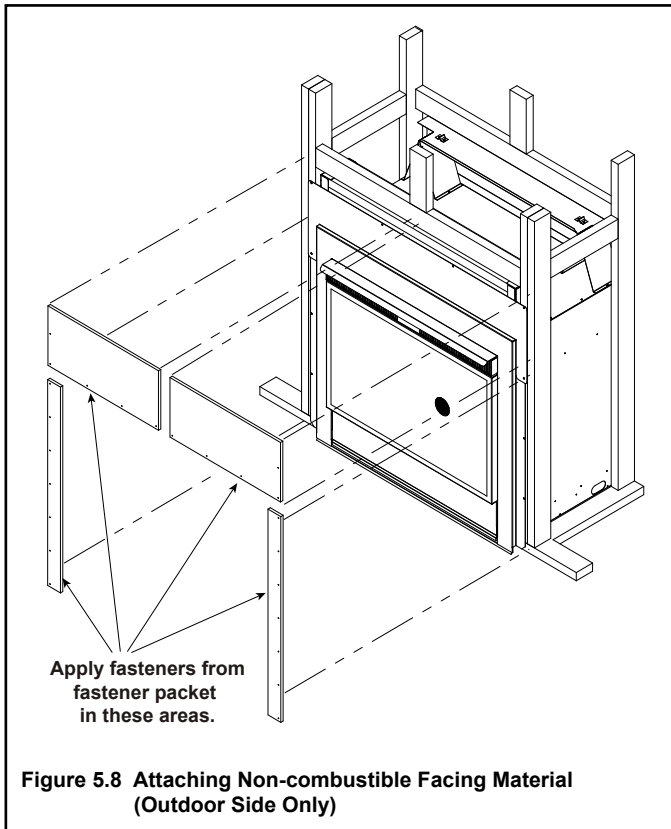
WARNING



Fire Risk.

- Follow these instructions exactly.
- Facing materials must be installed properly to prevent fire.
- No materials may be substituted without authorization by Hearth & Home Technologies.

- Center and attach two top boards (the two shorter pieces) to the framing members. See Figure 5.8.
- Attach the left and right side pieces to the framing members. See Figure 5.8.
- Use fasteners from fastener packet (in manual bag) in shaded areas. See Figure 5.9.
- Use regular sheet rock screws in shaded areas (non-combustible board).



- Use a wet or dry towel or soft brush to remove dust or dirt from facing material.
- Apply a non-combustible adhesive to attach tile, stone or other non-combustible finishing materials per manufacturer's instructions.

6 Electrical Information

A. General Information

WARNING! Risk of Shock or Explosion! DO NOT wire 110/120 VAC to the valve or to the appliance wall switch. Incorrect wiring will damage controls.

NOTICE: This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with **National Electric Code ANSI/NFPA 70-latest edition or the Canadian Electric Code CSA C22.1.**

- Wire the appliance junction box to unswitched 110/120 VAC. This is required for proper operation of the appliance.
- A 110/120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection, in compliance with the applicable electrical codes, when it is installed in locations such as in bathrooms or near sinks.
- Low voltage and 110 VAC voltage cannot be shared within the same wall box.

NOTICE: Waterproof insulated wire should be used when wiring the junction box.

Junction Box Installation

If the box is being wired from the **OUTSIDE** of the appliance:

- Install the Romex™ connector (not included with appliance) in the side wrap.
- Loosen two screws on the Romex connector, feed the necessary length of wire through the connector and tighten the screws.
- Make all necessary wire connections.

If the box is being wired from the **INSIDE** of the appliance:

- Remove the screw attaching the junction box to the outer shell, rotate the junction box inward to disengage it from the outer shell (see Figure 6.1).
- Pull the electrical wires from outside the appliance through this opening into the valve compartment.
- Loosen the two screws on the Romex connector, feed the necessary length of wire through the connector and tighten the screws.
- Make all necessary wire connections to the receptacle and assemble the receptacle and cover to the junction box.

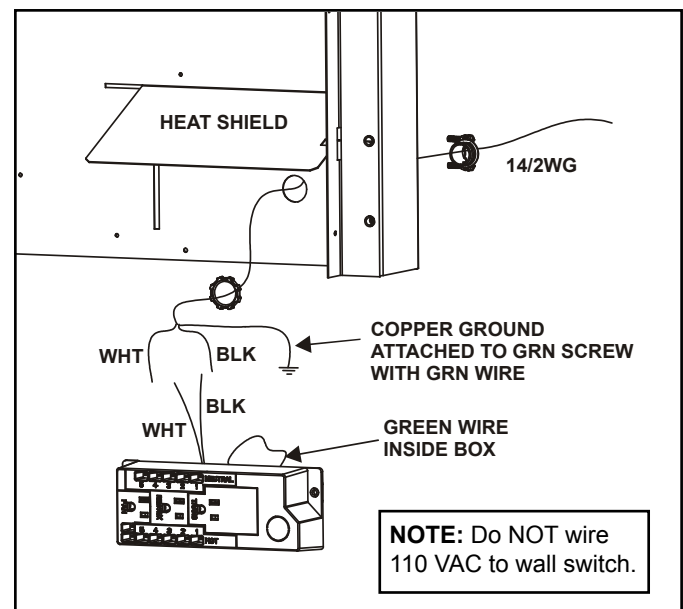


Figure 6.1 Junction Box Detail

Optional Accessories

Optional fan and remote control kits require that 110/120 VAC be wired to the factory installed junction box before the appliance is permanently installed. See Figure 6.2.

Fan Installation

Fan should be positioned on the left side (as viewed from appliance interior side). See Figure 6.3. **NOTE:** For ease of installation, it is recommended that the fan be installed prior to gas line installation.

Wall Switch

Position the wall switch in the desired position on a wall. Run a maximum of 25 feet (7.8 m) or less length of 18 A.W.G. minimum wire and connect it to the appliance ON/OFF switch pigtailed.

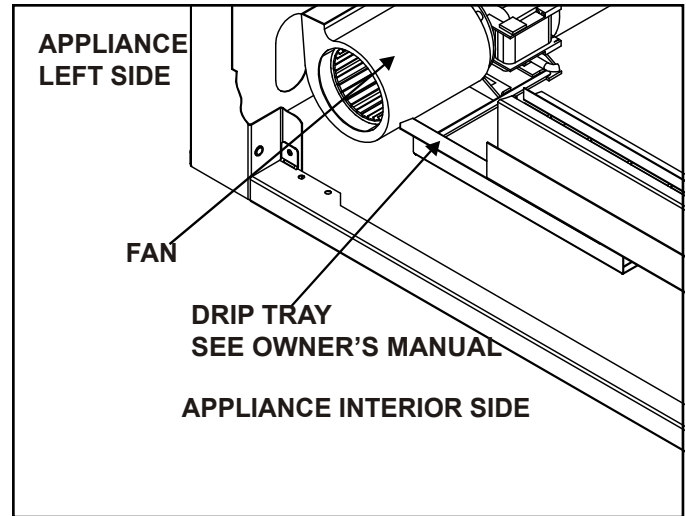


Figure 6.3 Fan location

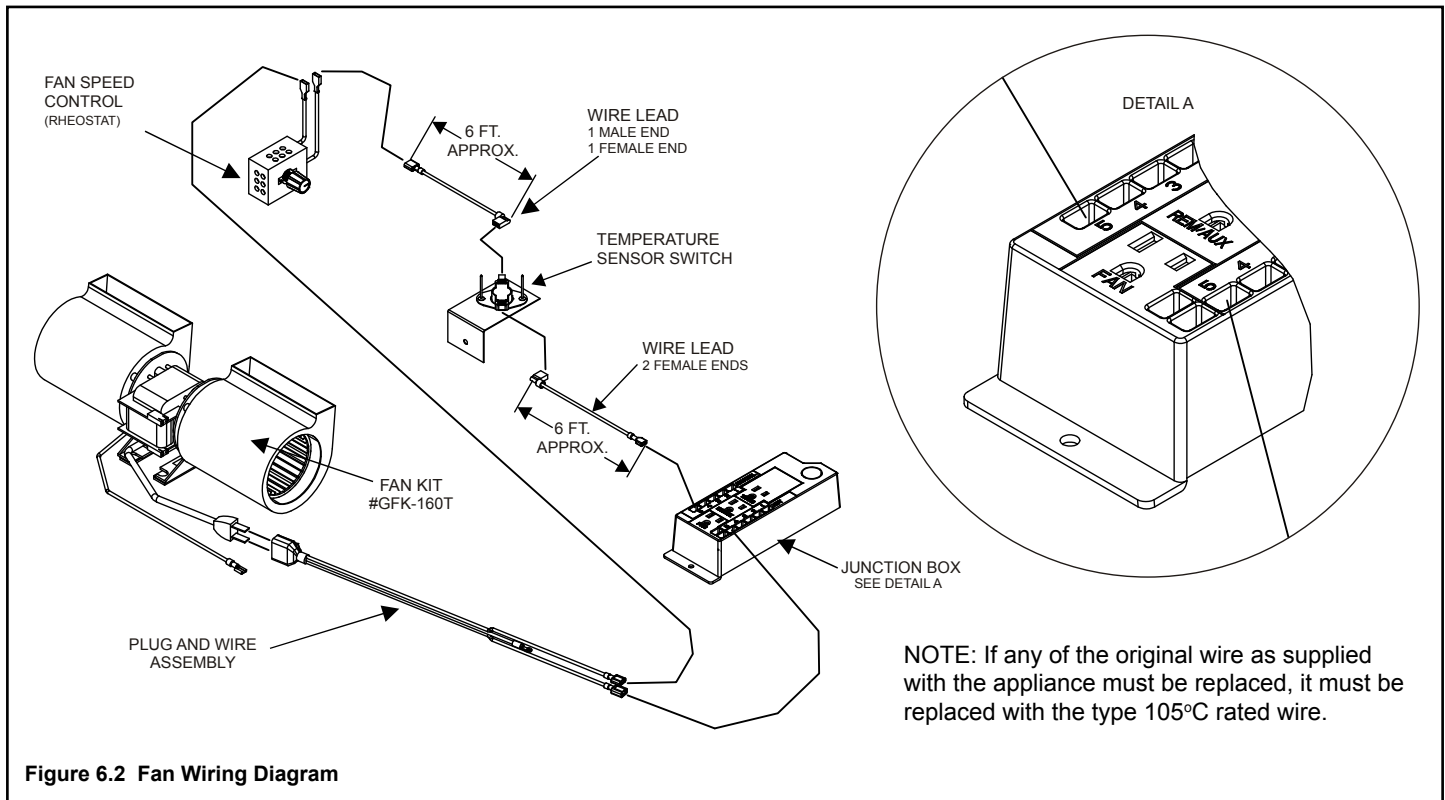


Figure 6.2 Fan Wiring Diagram

Electrical Service and Repair

WARNING! Risk of Shock! Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

WARNING! Risk of Shock! Replace damaged wire with type 105 °C rated wire. Wire must have high temperature insulation.

B. Wiring Requirements

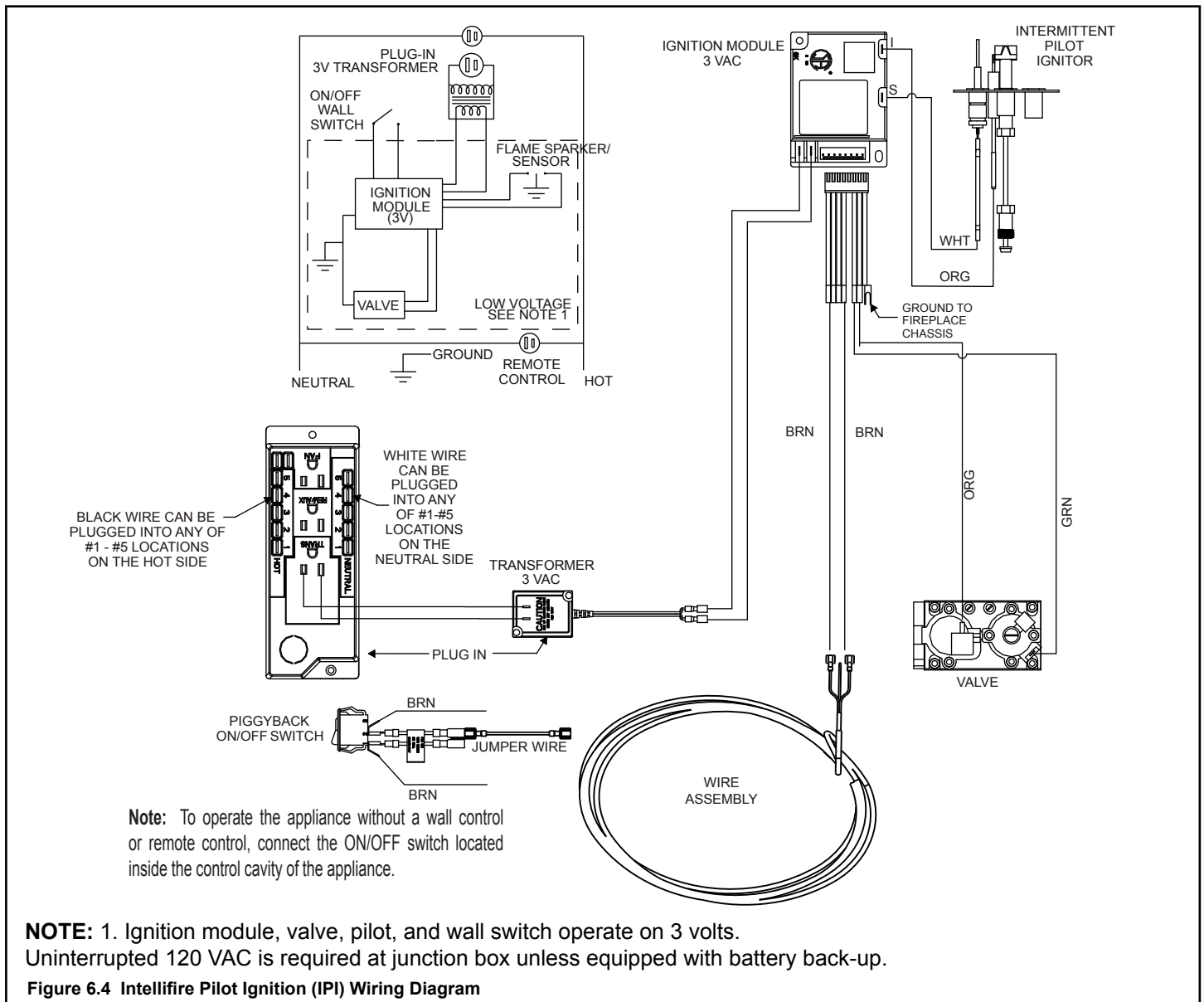
Intellifire Ignition System Wiring

- Wire the appliance junction box to 110/120 VAC for proper operation of the appliance.


WARNING! Risk of Shock or Explosion! DO NOT wire IPI controlled appliance junction box to a switched circuit. Incorrect wiring will override IPI safety lockout.

- Refer to Figure 6.4, Intellifire Pilot Ignition (IPI) Wiring Diagram.
- This appliance is equipped with an Intellifire control valve which operates on a 3 volt system.
- Plug the 3-volt AC transformer into the appliance junction box to supply power to the unit OR install two D cell batteries (not included) into the battery pack before use.

NOTICE: Batteries should not be placed in the battery pack while using the transformer. Remove batteries before using the transformer, and unplug the transformer before installing the batteries. Battery polarity must be correct or module damage will occur.



Connecting to the Appliance



⚠ WARNING

Wire 110/120 VAC to electrical junction box.
Do NOT wire 110/120 VAC to valve.
Do NOT wire 110/120 VAC to wall switch.

- Incorrect wiring will damage millivolt valves.
- Incorrect wiring will override IPI safety lockout and may cause explosion.

Note: To operate the appliance without a wall control or remote control, connect the ON/OFF switch located inside the control cavity of the appliance. See Figure 6.4.

- Keep wire lengths short as possible by removing any excess wire length.
- Low voltage and 110/120 VAC voltage cannot be shared within the same wall box.

Wall Switch Installation for Fan (Optional)

If the box is being wired to a wall mounted switch for use with a fan (See Figure 6.5):

- The power supply for the appliance must be brought into a switch box.
- The power can then be supplied from the switch box to the appliance using a minimum of 14-3 with ground wire.
- At the switch box connect the black (hot) wire and red (switch leg) wire to the wall switch as shown.
- At the appliance connect the black (hot), white (neutral) and green (ground) wires to the junction box as shown.
- Add a 1/4 in. insulated female connector to the red (switch leg) wire, route it through the knockout in the face of the junction box, and connect to the top fan switch connector (1/4 in. male) as shown.

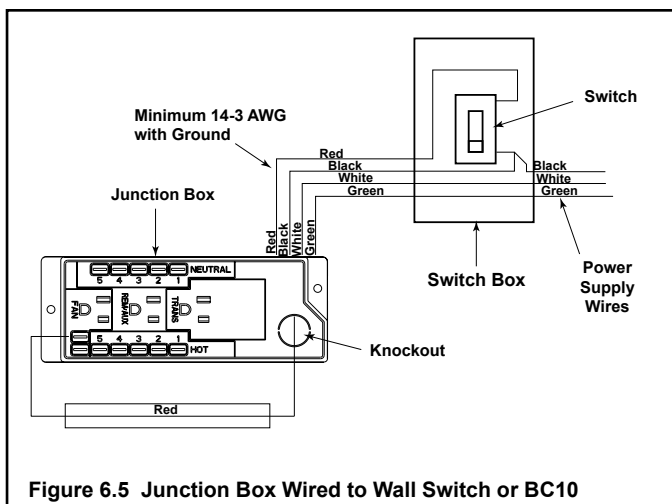


Figure 6.5 Junction Box Wired to Wall Switch or BC10

7 Gas Information

A. Fuel Conversion

- Make sure the appliance is compatible with available gas types.
- Conversions must be made by a qualified service technician using Hearth & Home Technologies specified and approved parts.

B. Gas Pressure


- Optimum appliance performance requires proper input pressures.
- Gas line sizing requirements will be determined in ANSI Z223.1 National Fuel Gas Code in the USA and CAN/CGA B149 in Canada.
- Pressure requirements are:

Gas Pressure	Natural Gas	Propane
Minimum inlet pressure	5.0 in. w.c.	11.0 in. w.c.
Maximum inlet pressure	10.0 in. w.c.	13.0 in. w.c.
Manifold pressure	3.5 in. w.c.	10.0 in. w.c.

WARNING! Risk of Fire or Explosion! High pressure will damage valve. Low pressure may cause explosion.

- Verify inlet pressures. Verify minimum pressures when other household gas appliances are operating.
- Install regulator upstream of valve if line pressure is greater than 1/2 psig.

⚠ WARNING



Fire Risk.
Explosion Hazard.
High pressure will damage valve.

- Disconnect gas supply piping BEFORE pressure testing gas line at test pressures above 1/2 psig.
- Close the manual shutoff valve BEFORE pressure testing gas line at test pressures equal to or less than 1/2 psig.

➔ **Note:** Have the gas supply line installed in accordance with local codes, if any. If not, follow ANSI Z223.1. Installation should be done by a qualified installer approved and/or licensed as required by the locality. (In the Commonwealth of Massachusetts installation must be performed by a licensed plumber or gas fitter).

Note: A listed (and Commonwealth of Massachusetts approved) 1/2 in. (13 mm) T-handle manual shut-off valve and flexible gas connector are connected to the 1/2 in. (13 mm) control valve inlet.

- **If substituting for these components, please consult local codes for compliance.**

C. Gas Connection

- Refer to Figure 3.1 for location of gas line access in appliance.
- Gas line may be run through knockout(s) provided.
- The gap between supply piping and gas access hole may be caulked with high temperature caulk or stuffed with non-combustible, unfaced insulation to prevent cold air infiltration.
- Ensure that gas line does not come in contact with outer wrap of the appliance. Follow local codes.
- Pipe incoming gas line into valve compartment.

Note: If installing optional fan, use factory-supplied flex ball valve assembly to connect gas line to valve. Hard-pipe connected directly to valve will not leave the amount of space required for proper fan installation.

- Connect incoming gas line to the 1/2 in. (13 mm) connection on manual shutoff valve.

WARNING! Risk of Fire or Explosion! Support control when attaching pipe to prevent bending gas line.

- A small amount of air will be in the gas supply lines.

WARNING! Risk of Fire or Explosion! Gas build-up during line purge could ignite.

- Purge should be performed by qualified service technician.
- Ensure adequate ventilation.
- Ensure there are no ignition sources such as sparks or open flames.

Light the appliance. It will take a short time for air to purge from lines. When purging is complete the appliance will light and operate normally.

WARNING! Risk of Fire, Explosion or Asphyxiation! Check all fittings and connections with a non-corrosive commercially available leak-check solution. **DO NOT** use open flame. Fittings and connections could have loosened during shipping and handling.

WARNING! Risk of Fire! DO NOT change valve settings. This valve has been preset at the factory.

D. High Altitude Installations

NOTICE: *If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.*

When installing above 2000 feet elevation:

- In the USA: Reduce burner orifice 4% for each 1000 feet above 2000 feet.
- In CANADA: Reduce burner orifice 10% for elevations between 2000 feet and 4500 feet. Above 4500 feet, consult local gas utility.

E. Air Shutter Setting

Air shutter settings should be adjusted by a qualified service technician at the time of installation. The air shutter is set at the factory.

NOTICE: *If sooting occurs, provide more air by opening the air shutter.*

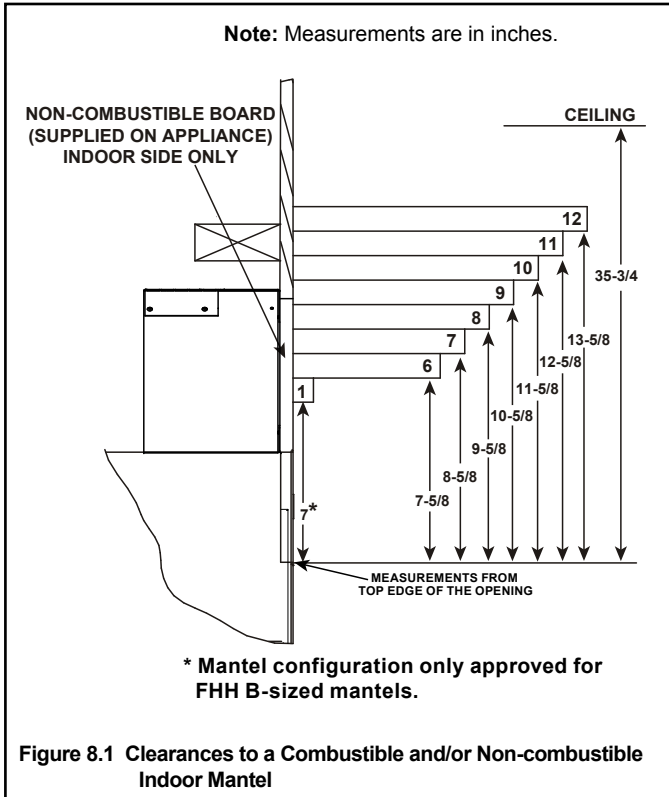
Air Shutter Settings

	NG	Propane
TWILIGHT-II-MDC	3/16 in.	Full Open

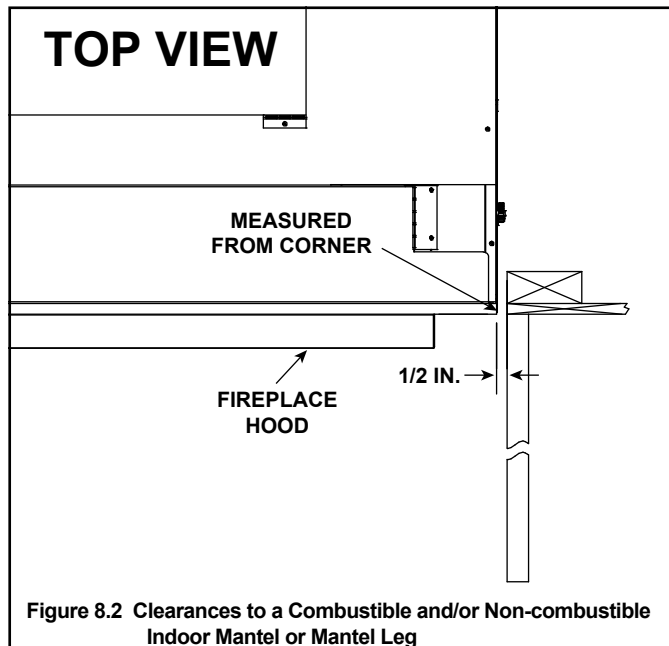
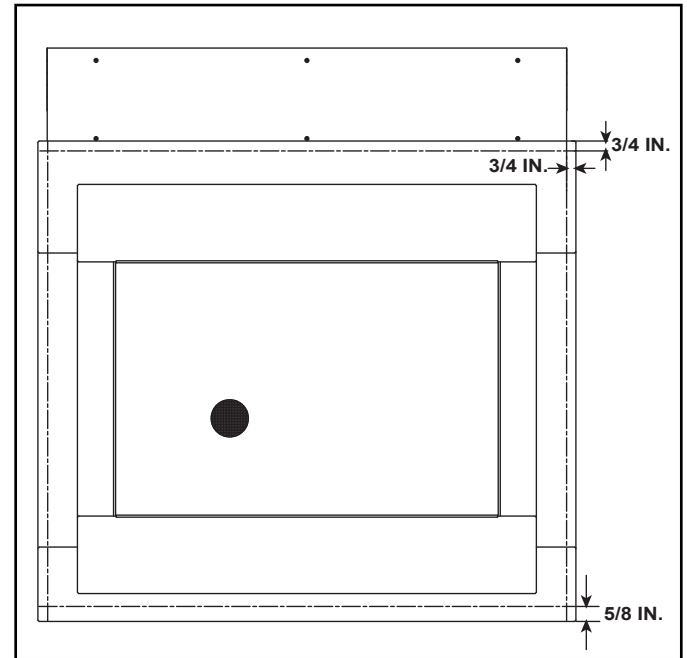
8 Finishing

A. Mantel and Wall Projections

WARNING! Risk of Fire! Comply with all minimum clearances as specified. Framing closer than the minimums listed must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc.) Failure to comply could cause fire.



The TWI-MOD decorative front will overlap the appliance. See Figure 8.3.



B. Decorative Front Selection

Only decorative fronts certified for use with this appliance model may be used. Contact your dealer for a list of decorative fronts that may be used. The TWI-MOD decorative front can not be used if the appliance is installed directly on the floor. See Figure 8.4 and 8.5.

FS-TWI Decorative Front Application

If the appliance is installed on the floor or level with an elevated hearth, the FS-TWI decorative front **MUST** be used. The TWI-MOD decorative front is not compatible with this type of installation as a minimum elevation of 3/4 inch is required on the bottom of the appliance.

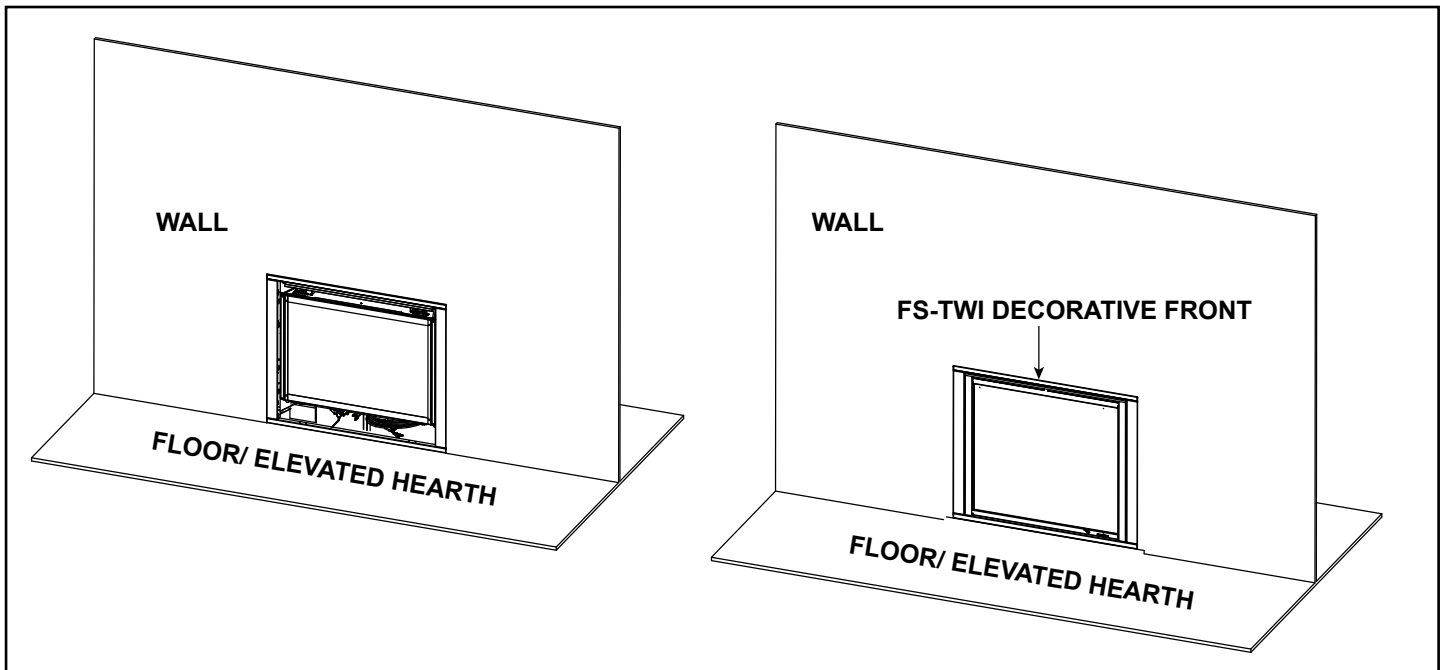


Figure 8.4 Appliance Installed on Floor or Elevated Hearth

TWI-MOD Decorative Front Application

If the appliance is installed at a minimum of 3/4 inch above the floor, the TWI-MOD decorative front can be used. The TWI-MOD decorative front **OVERLAPS** the sides, top and bottom of the appliance surround. See Figure 8.6 for dimensions.

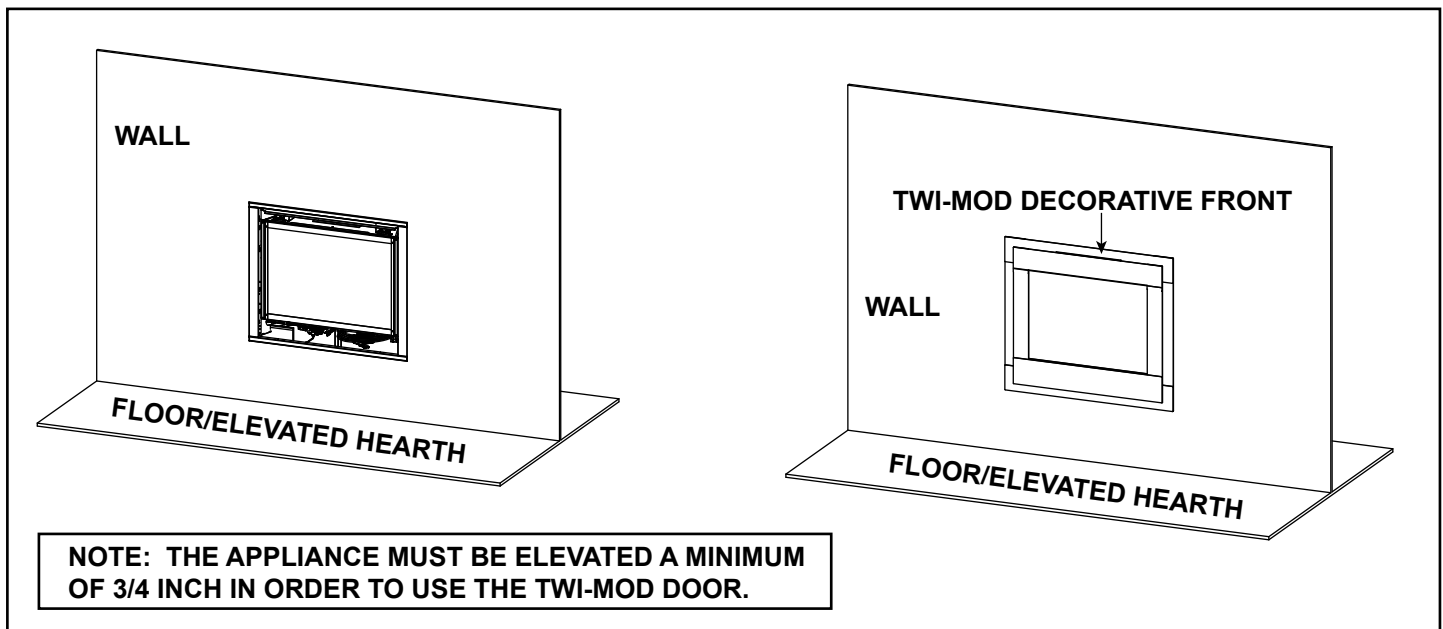
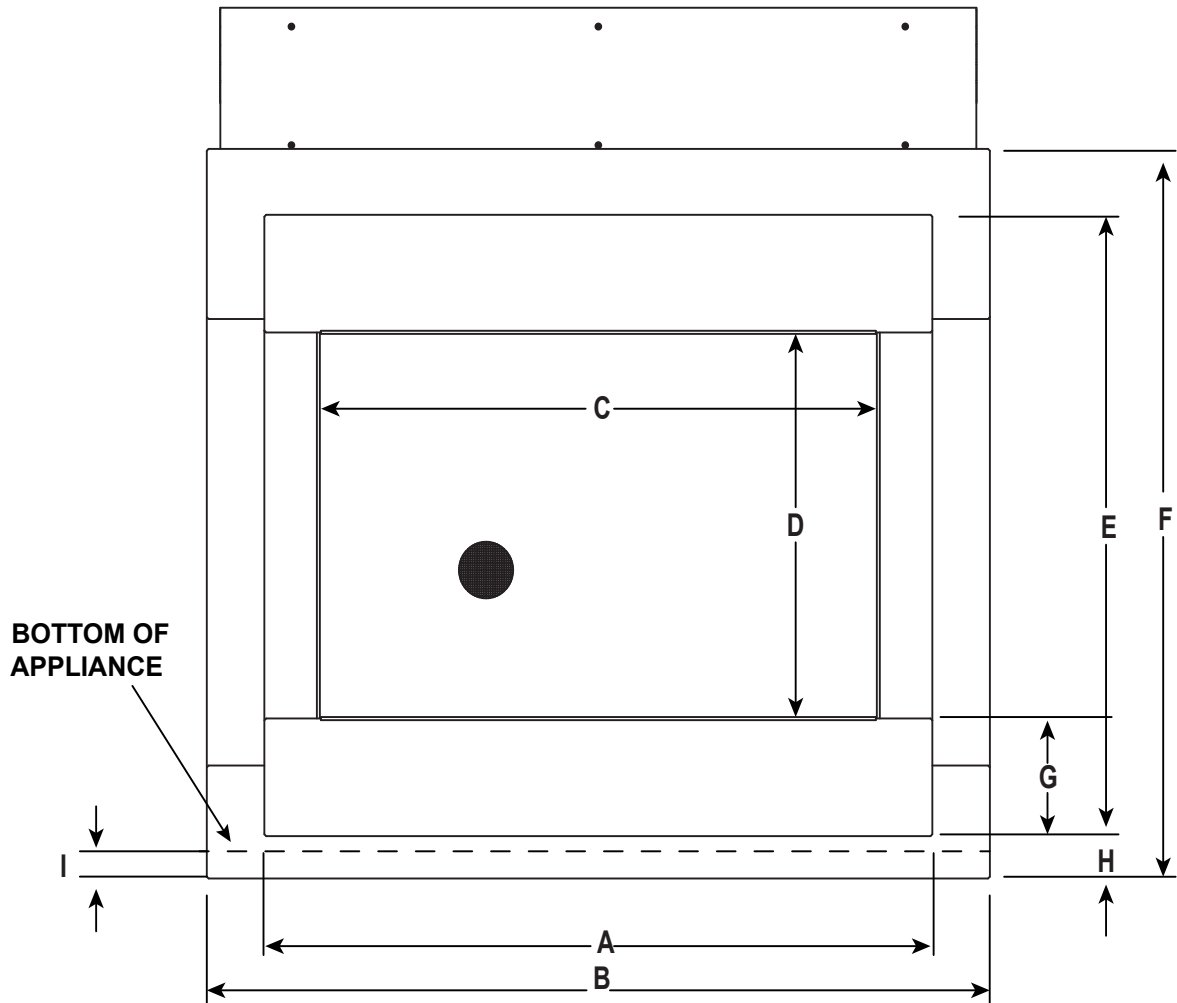


Figure 8.5 Appliance Installed Off the Floor

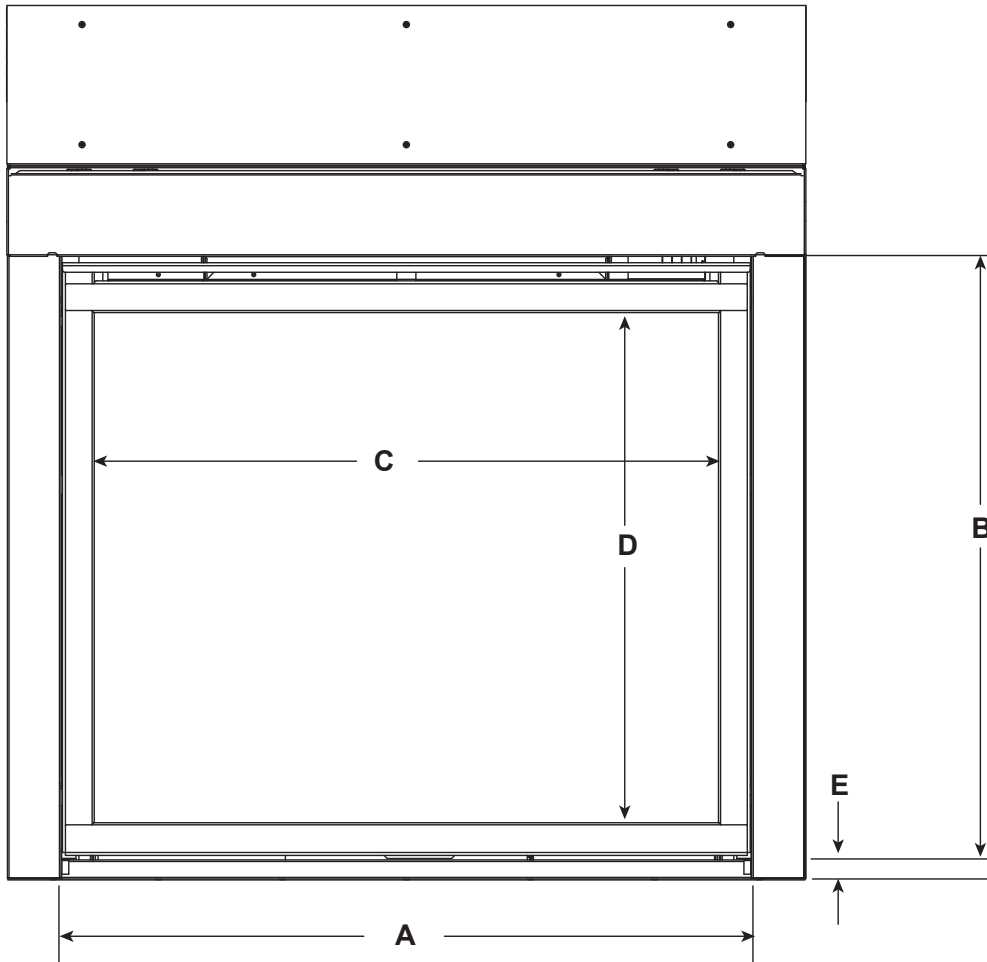
DECORATIVE FRONT DIMENSION DIAGRAM - TWI-MOD



		A	B	C	D	E	F	G	H	I
TWI-MOD	in.	37	43-3/8	30-3/4	20-3/8	33	38-3/4	6-3/8	2-3/8	1/2
	mm	940	1102	781	518	838	984	162	6	13

Figure 8.6 Decorative Front Dimensions - TWI-MOD Decorative Front

DECORATIVE FRONT DIMENSION DIAGRAM - FS-TWI



		A	B	C	D	E
FS-TWI	in.	36-1/16	31-1/8	31-3/4	25-7/8	1-3/4
	mm	916	790	806	657	32

Figure 8.7 Decorative Front Dimensions - FS-TWI Decorative Front

C. Facing Material

Inside Facing Material

- May install combustible materials up to specified clearances on top, front and sides of appliance.
- Seal joints between finished wall and appliance top and sides with 300 °F (140 °C) minimum sealant.
- Leave space so bottom grille can be lowered for trim door removal.

WARNING! Risk of Fire! DO NOT apply combustible materials beyond the minimum clearances. Comply with all minimum clearances to combustibles as specified in this manual. Overlapping materials could ignite and will interfere with proper operation of doors and louvers.

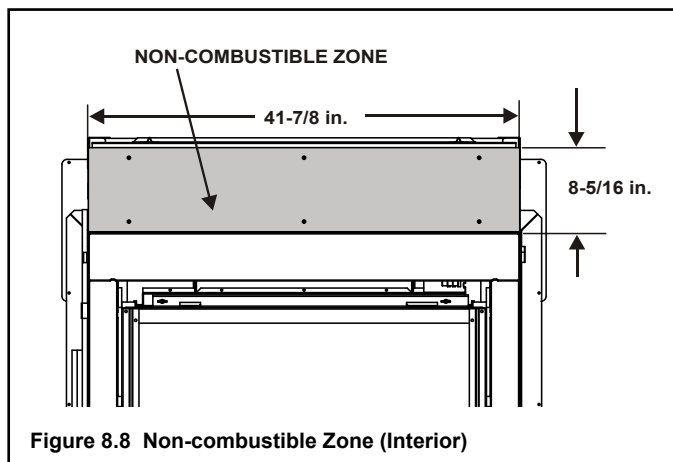


Figure 8.8 Non-combustible Zone (Interior)

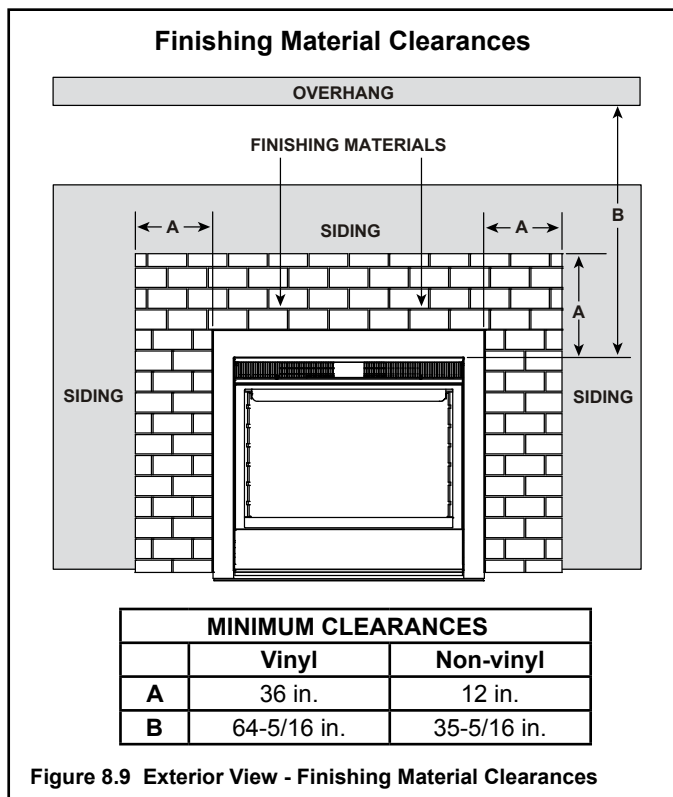


Figure 8.9 Exterior View - Finishing Material Clearances

⚠ WARNING

Risk of Fire

- Non-combustible clearances must be maintained.
- Sheetrock, wood or other combustibles must NOT be used as sheathing or facing in the non-combustible zone.
- See **Sections 3 & 8** for proper clearances.
- See **Section 1** for combustible/non-combustible definitions.

May install non-combustible materials to cover gap between facing material and appliance (see Figure 8.10).

⚠ WARNING

Fire Risk.
Water Intrusion Risk.
Hood is required.

- Flashing and non-combustible sheathing must be installed before facing materials.
- Facing must be non-combustible and seal tight to fireplace front.

⚠ WARNING

Fire Risk.

Finish all edges and fronts to clearances and specifications listed in manual.

- Black metal columns may be covered with non-combustible material only.
- Do NOT overlap combustible materials onto appliance front.
- Install combustible materials only up to specified clearances on top, front and side edges.
- Seal joints between the finished wall and appliance top and sides using only a 300 °F minimum sealant.

NOTICE: If using an acid-based wash to clean finishing material, cover the face of the fireplace with plastic sheet to protect the paint. Remove plastic before operation of fireplace.

Finishing Material: 1 Inch Thick or Less - Overlap Fit Method

The TWI-MOD decorative front can be installed with finishing materials up to one inch thick.

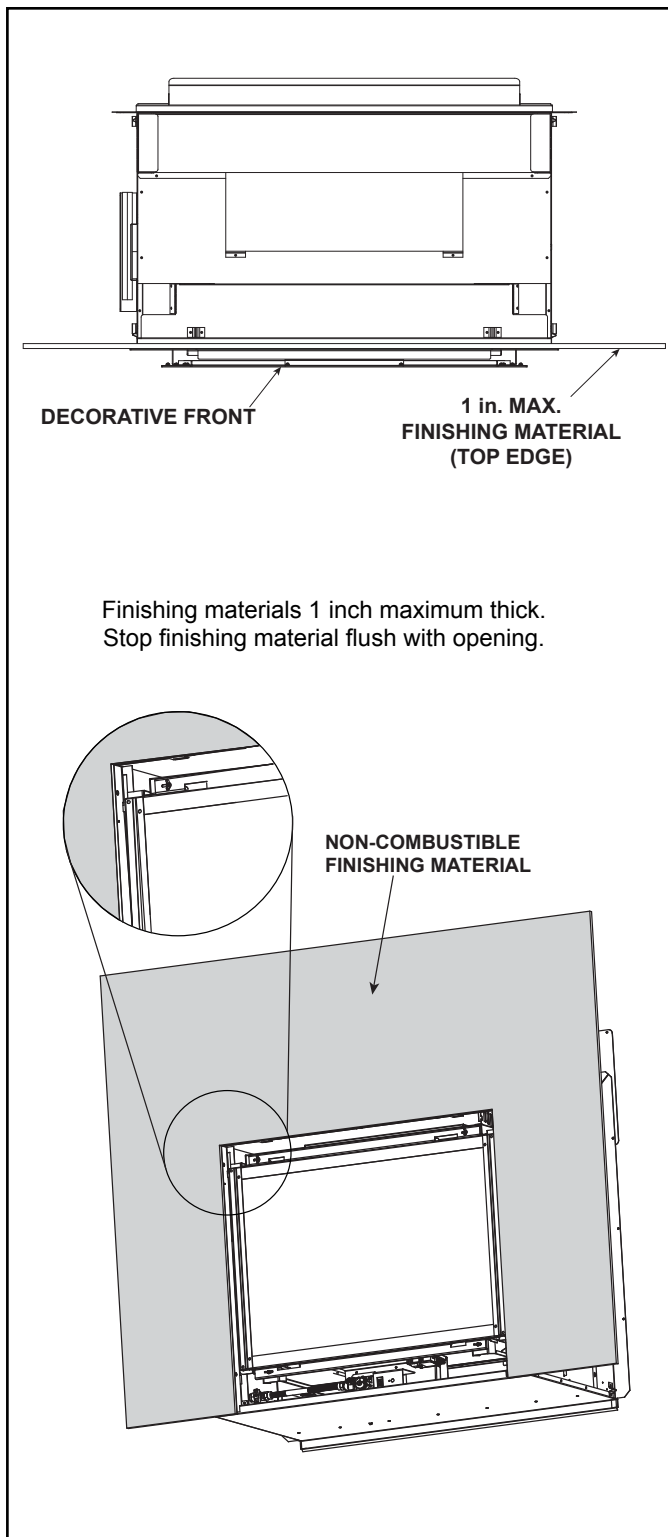


Figure 8.10 Finishing Material 1 Inch Thick or Less

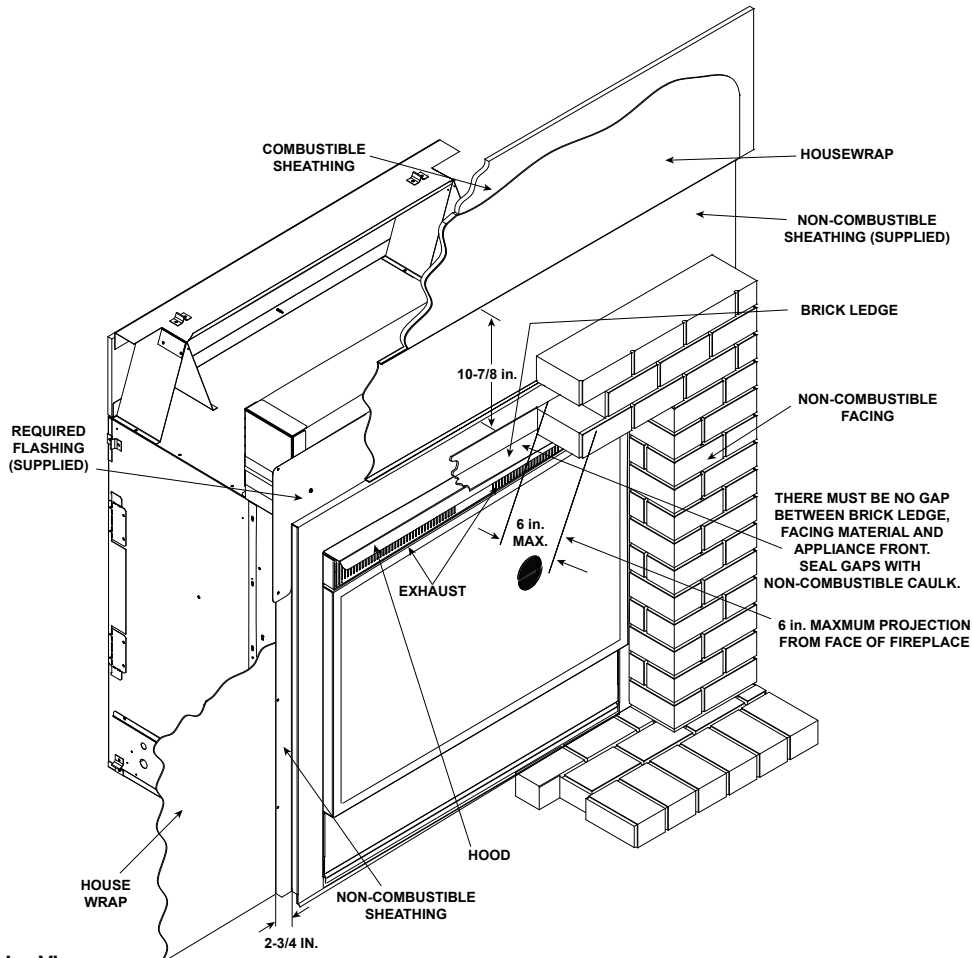


Figure 8.11 Exterior View

NOTE: All finishing materials on top of exterior sheathing must be non-combustible for a minimum of 10-7/8 inches above and on both sides of the exterior face of the appliance. This non-combustible finishing material can be up to a maximum of 6 inches thick (6 inches maximum horizontal overhang) to allow for brick and stone alcoves. See Figure 8.11 and Figure 8.12.

NOTE: Combustible housewrap or building paper **MUST NOT** extend over the outside of non-combustible sheathing, and **MAY** extend over the flashing header behind non-combustible sheathing. Use high temp caulk to seal between combustible sheathing housewrap and non-combustible sheathing.

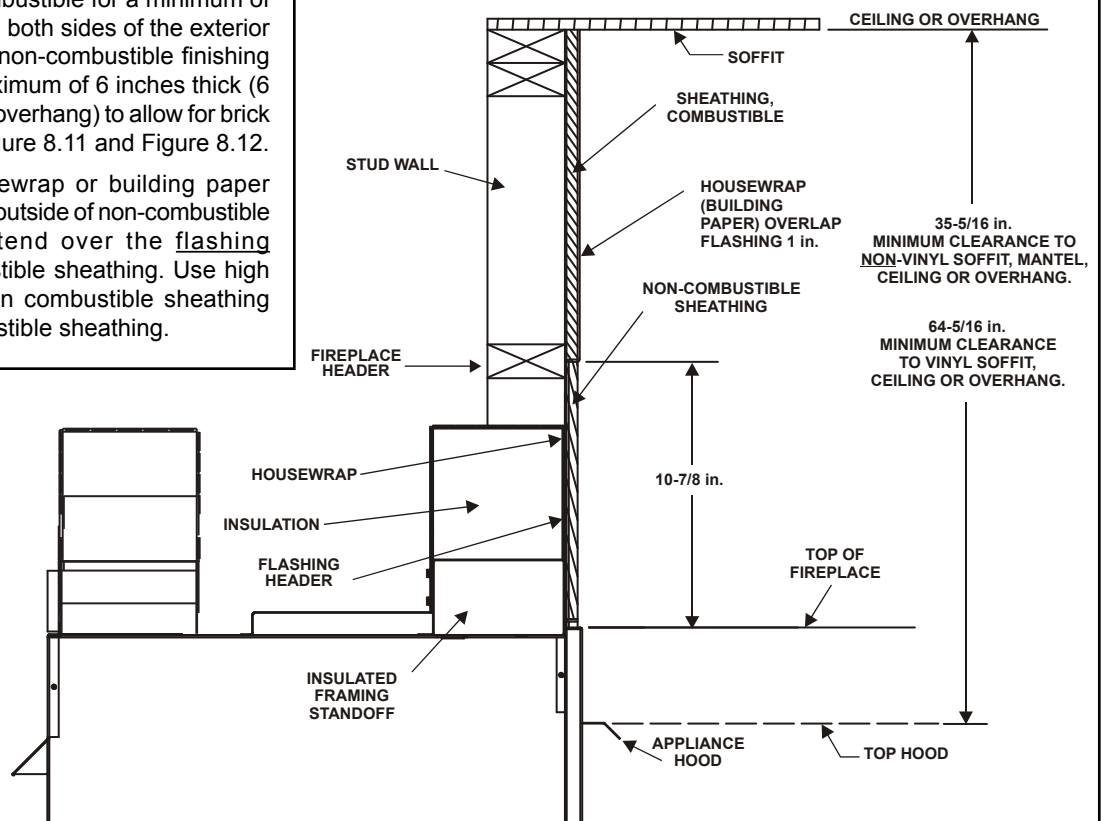


Figure 8.12 Exterior View

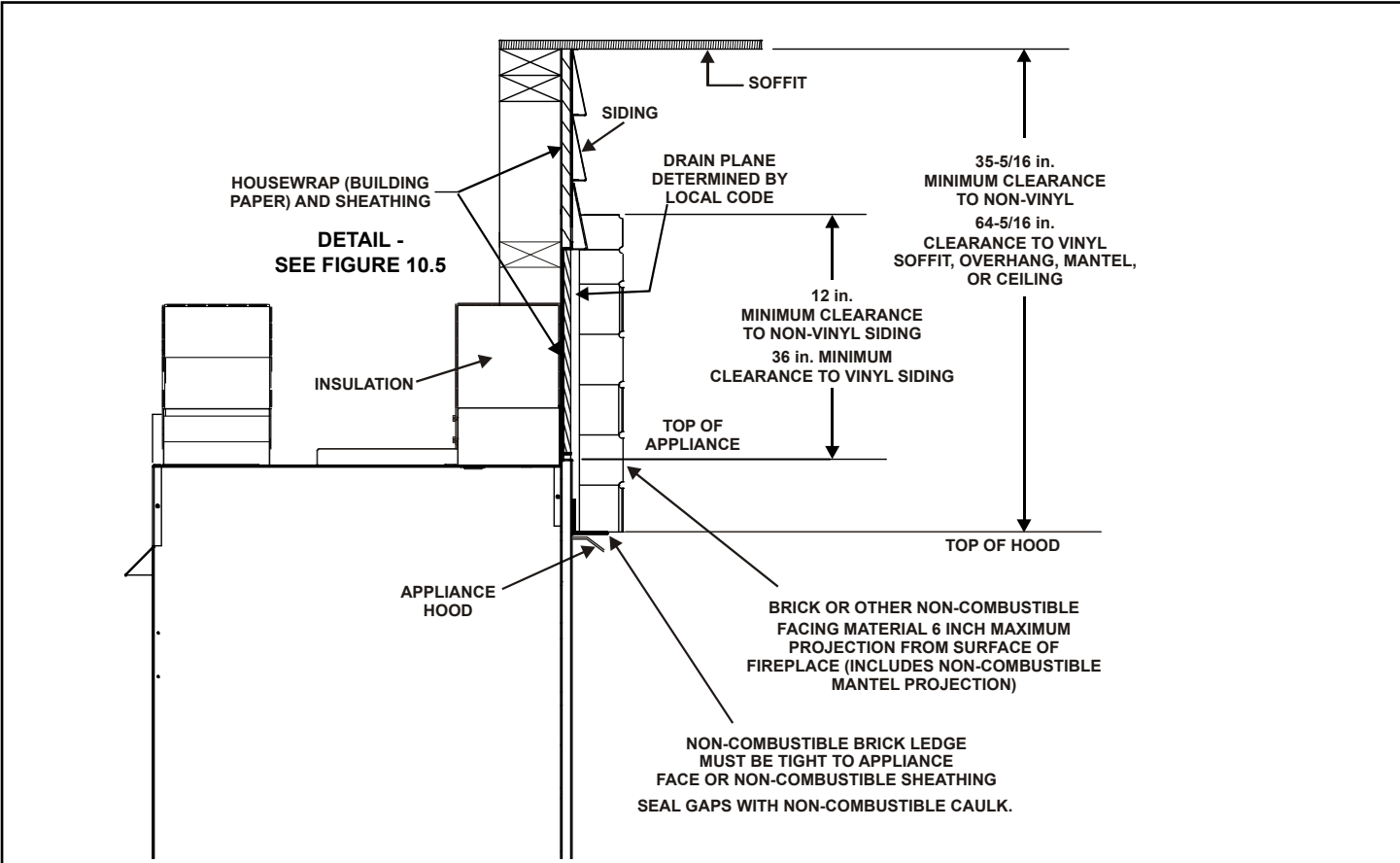


Figure 8.13 Exterior View with Non-combustible Facing Material

9 Appliance Setup

A. Fixed Glass Assembly

WARNING! Risk of Asphyxiation! Handle fixed glass assembly with care. Inspect the gasket to ensure it is undamaged and inspect the glass for cracks, chips or scratches.

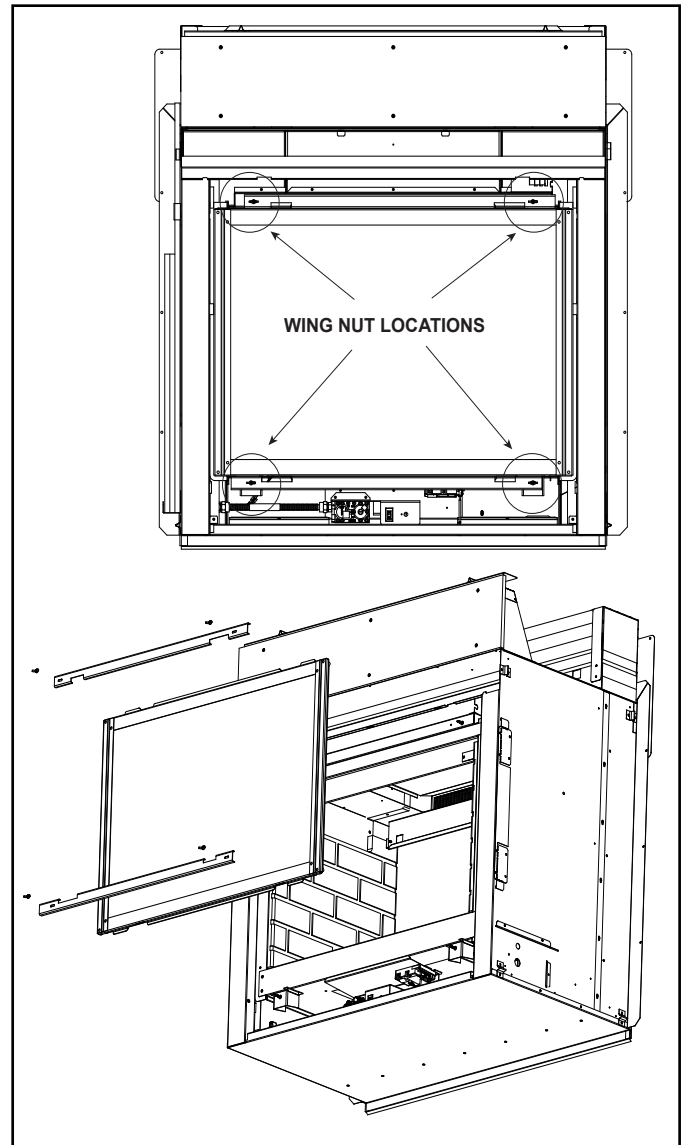
- **DO NOT** strike, slam or scratch glass.
- **DO NOT** operate fireplace with glass removed, cracked, broken or scratched.
- Replace as a complete assembly.

Removing Fixed Glass Assembly- Interior

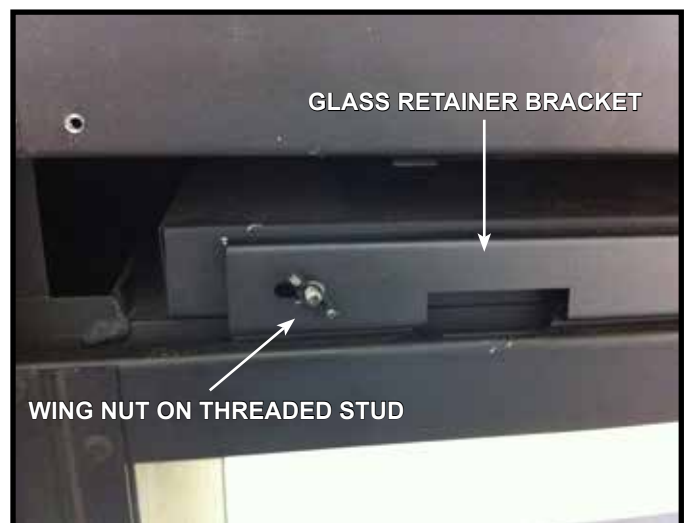
- Loosen two wing nuts on bottom glass retainer bracket.
- Loosen and remove two wing nuts on top glass retainer bracket. Remove glass retainer bracket. See Figure 9.1
- Lift glass assembly off of glass retainer bracket.

Replacing Fixed Glass Assembly - Interior

- Position glass assembly on bottom glass retainer bracket. Tighten wing nuts on bottom glass retainer bracket.
- Position top of glass assembly, position top glass retainer bracket and secure with two wing nuts.



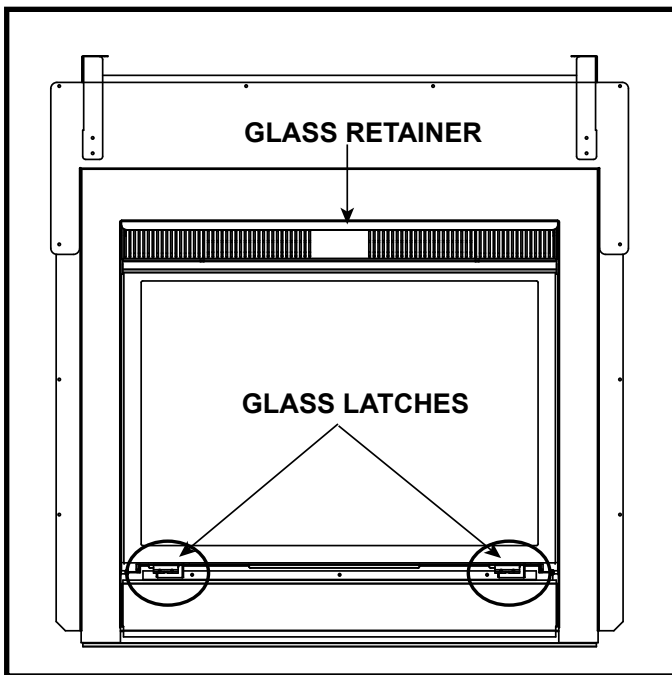
9.1 Glass Assembly - Interior Side



9.2 Glass Assembly - Interior Side

Removing Fixed Glass Assembly- Exterior

- Remove vanity panel from appliance to expose glass latches.
- Pull glass latch out to release. Grasp glass assembly on sides and pull bottom toward you. Slide glass assembly down and out from under glass retainer.



9.3 Glass Latch Locations - Exterior Side



9.4 Glass Assembly - Exterior Side

Replacing Fixed Glass Assembly - Exterior

- Slide top of glass assembly into position under glass retainer. Position bottom of glass assembly and secure glass clips.
- Replace vanity panel.

B. Remove the Shipping Materials

Remove shipping materials from inside or underneath the firebox.

C. Clean the Appliance

Clean/vacuum any sawdust that may have accumulated inside the firebox or underneath in the control cavity.

D. Glass Refractory

Install black glass refractory panels by carefully sliding them in between the firebox and glass retainer brackets. See Figure 9.5.

Note: Place the glass refractory so that the smooth, reflective side is facing the inside, or viewing area, of the fireplace.



Figure 9.5 Install Refractory

E. Glass Rock Media Kit

WARNING! Choking Hazard! Keep glass rock media out of reach of children.


CAUTION! Risk of Cuts, Abrasions or Flying Debris. Wear protective gloves and safety glasses during installation. Sheet metal edges are sharp.

Cleaning the Glass Rock Media

During shipment of the glass rock media, dust and debris can accumulate in the rock bag. It is recommended that the glass rock media be rinsed thoroughly with water to remove dust and small glass rock particles. An easy method to clean the glass rock media is to empty the contents of the bag into a bucket and rinse thoroughly with a garden hose. Allow the glass rock media to dry before installing into the fireplace.

Installation

1. Place glass rock media evenly on base pan and over top of burner. Do not block the open area by the glass refractory. This area must remain open for proper air flow. See Figure 9.6.

⚠ WARNING	
	<p>Delayed Ignition Risk</p> <ul style="list-style-type: none">• Place glass rock media according to instructions.• Do NOT place glass rock media in area in front of pilot. <ul style="list-style-type: none">• Do NOT place glass rock media in a position that they may fall into area in front of pilot.• Do NOT use any media other than the glass rock media supplied with this fireplace. <p>Fireplace will not function properly. Delayed ignition may occur.</p>

NOTICE: Care should be taken to avoid placing glass rock media between the left and right of the media tray and the firebox. Blocking this gap may cause an undesirable flame appearance. See Figure 9.6.

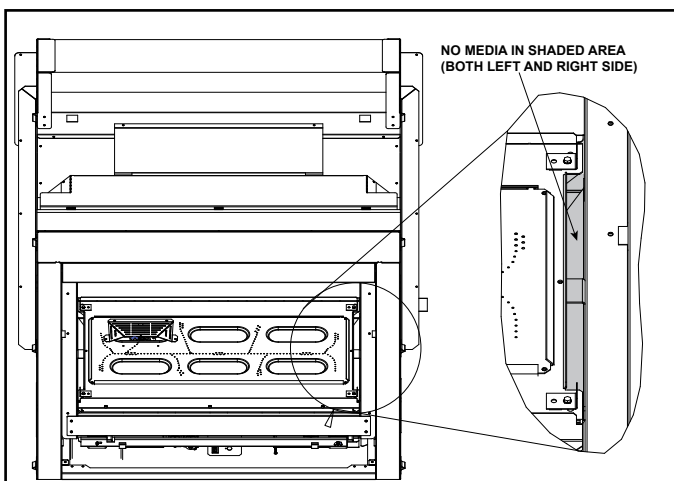


Figure 9.6 No Glass Rock Media in Gap

2. Remove the screw that holds the rock placement jig in place. Carefully remove the rock jig, making sure that no media falls into the pilot area.

WARNING! Risk of explosion! DO NOT place glass rock media directly in front of the pilot assembly or between the burner tracks over the burner ports. Improperly placed media may interfere with proper burner operation.



Figure 9.7 Rock Placement Jig



Figure 9.8 CORRECT Media Placement



Figure 9.9 INCORRECT Media Placement

F. Appliance Start Up

After appliance is completely set up, replace glass assembly (assemblies). Start the appliance and perform a leak check using a commercially available, noncorrosive leak check solution. Be sure to rinse off all leak check solution following testing. Extinguish the pilot and turn the appliance off.

G. Install Trim and/or Surround

- Install optional trim kits and/or surrounds using the instructions included with the accessory.
- Use non-combustible materials to cover the gap between the sheet rock and the appliance (when applicable to the model).

10 Reference Materials

A. Accessories

Install approved accessories per instructions included with accessories. Contact your dealer for a list of approved accessories.

WARNING! Risk of Fire and Electric Shock! Use ONLY Hearth & Home Technologies-approved optional accessories with this appliance. Using non-listed accessories could result in a safety hazard and will void the warranty.

Remote Controls, Wall Controls and Wall

Switches

Follow the instructions supplied with the control installed to operate your fireplace:

For safety:

- Install a switch lock or a wall/remote control with child protection lockout feature.
- Keep remote controls out of reach of children.

See your dealer if you have questions.

Optional Fan

If desired, a fan kit may be added. Contact your dealer to order the correct fan kit. Follow the instructions supplied with the fan kit to operate your fan. See your dealer if you have questions.

Decorative Doors and Fronts

WARNING! Risk of Fire! Install ONLY doors or fronts approved by Hearth & Home Technologies. Unapproved doors or fronts may cause fireplace to overheat.

This fireplace has been supplied with an integral barrier to prevent direct contact with the fixed glass panel. DO NOT operate the fireplace with the barrier removed.

Contact your dealer or Hearth & Home Technologies if the barrier is not present or help is needed to properly install one.

For more information refer to the instructions supplied with your decorative door or front.

Please contact your Hearth & Home Technologies dealer with any questions or concerns.
For the location of your nearest Hearth & Home Technologies dealer, please visit www.hearthnhome.com.

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