WATERFORD

Owners & Installation Manual

Tested by: INTERTEK · Warnock Hersey · C · US

EMERALD GAS INSERT ZERO CLEARANCE KIT

KIT # 270-900

PLEASE KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

WARNING:
Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult an authorized installer, service agency or the gas supplier.

FOR YOUR SAFETY
Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this or any other appliance.

Installation and service must be performed by an authorized installer, service agency or the gas supplier.

FOR YOUR SAFETY
What to do if you smell gas:

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

WATERFORD
IRISH STOVES

TABLE OF CONTENTS

GENERAL INFORMATION

Using Kit# 270-900 you can convert the Emerald Gas Insert into a highly efficient heat producing Zero Clearance Fireplace.

This kit consists of factory built parts that require minimal assembly to form the Zero Clearance enclosure for the Emerald Gas Insert. The enclosure can then be fixed into a framed combustible construction, and a standard Simpson Dura-Vent Direct Vent GS System installed on the assembly for the required venting. The insert can be installed later. The faceplate will normally overlap on top of the finished wall.
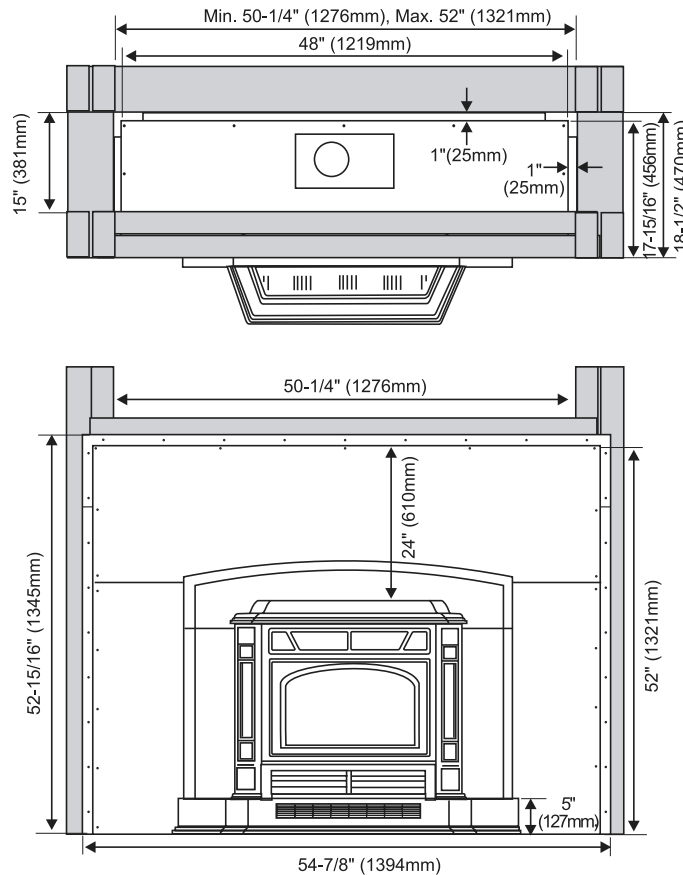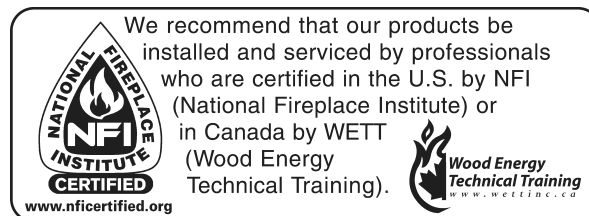

Emerald Insert Zero Clearance Kit Specifications

LISTINGS AND CODE APPROVALS

This gas component has been tested in accordance with National Safety Standards, and has been certified by Warnock Hersey for installation and operation in the United States, and Canada as described in these Installation and Operating Instructions.

Check with your local building code agency before you begin your installation to ensure compliance with local codes, including the need for "permits" and follow-up inspections. If any problems are encountered regarding code approvals, or if you wish clarification on any of the instructions contained here, contact your local dealer.

We recommend that our products be installed and serviced by professionals who are certified in the U.S. by NFI (National Fireplace Institute) or in Canada by WETT (Wood Energy Technical Training).

INSTALLATION

CLEARANCES TO COMBUSTIBLES

The clearances for the Zero Clearance Kit are 0" to combustibles (back, side and floor) but when planning your installation review the clearances required for the Insert (see below) after it is installed in the Zero Clearance Kit.

Warning: Combustible facing materials must not extend inside the 1/2" (13mm) lip at the edge of the face panels.
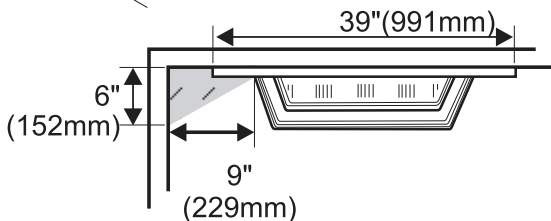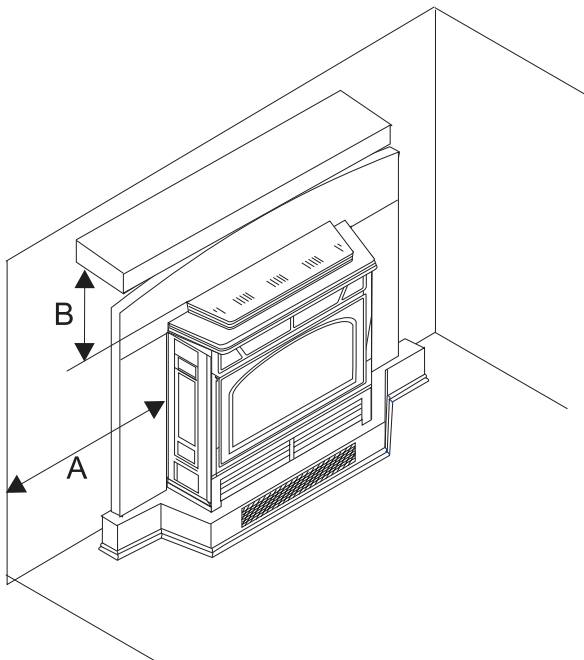
Any non-combustible facing materials (such as ceramic tile or masonry face brick) up to 1-1/2" (38mm) thick may be used to finish the area inside the 1/2" (13mm) lip on the face panels. Non-combustible tile backer board such as Wonderboard or Durock , or metal lath or screen may be fastened directly to the front of the face panels to provide a base for attaching facing materials if needed. The Zero Clearance Kit must be installed on a flat, solid, continuous surface (e.g. wood, metal, concrete).
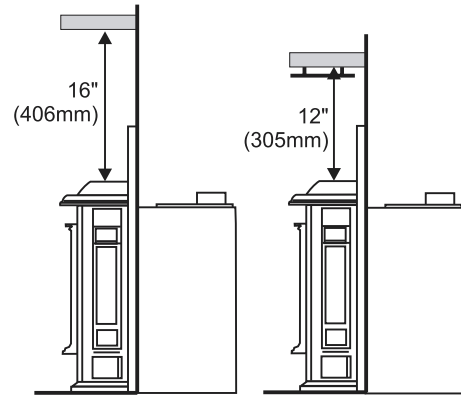
Emerald Insert Clearances to Combustibles:

	From Unit
Sides	A 12" / 305 mm
Unit to Unprotected Mantel	B 16" / 406 mm
(see Mantel clearance diagram below)	
Unit to Protected Mantel*	C 12" / 305mm

In addition to these clearances, adequate accessibility clearance for servicing and proper operation must be maintained.

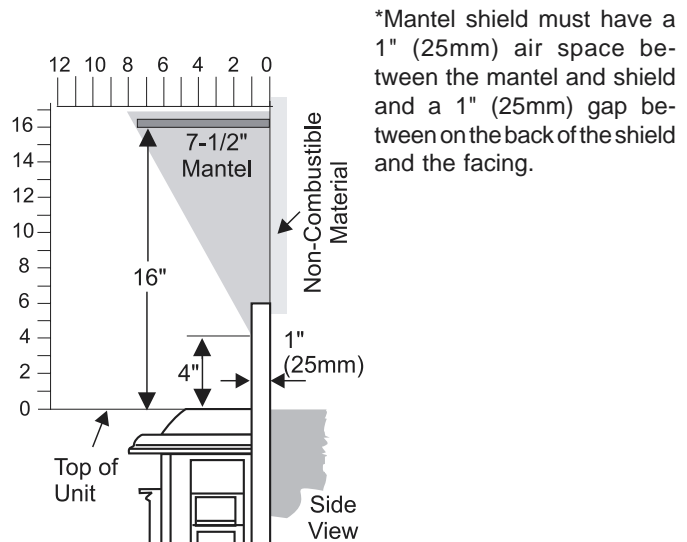Do not in any way obstruct the combustion air inlets that are located on the front of the heater.

Clearance from top of hob to mantel and combustible trim, unshielded.

Clearance from top of hob to mantel and combustible trim, shielded.

*Mantel shield must have a 1" (25mm) air space between the mantel and shield and a 1" (25mm) gap between on the back of the shield and the facing.

Combustibles are permitted within the shaded area.

Combustibles are permitted within the shaded area, on either side.

Floor Protection

If the appliance is installed in a fireplace that is elevated 5" (127mm) or higher (i.e., a Waterford Zero Clearance Cabinet, zero clearance fireplace, brick plinth, etc.), no floor protection is required in front of the appliance.

This is a copy of the label that accompanies each Waterford E61 Zero Clearance Kit #270-900. We have printed a copy of the contents here for your review. The safety label is located on the top panel.

NOTE: Waterford units are constantly being improved. Check the label on the unit and if there is a difference, the label on the unit is the correct one.

Warnock Hersey

C ⊽ **US** ®

Listed: GRAVITY DIRECT VENT WALL FURNACE
Certified for/Certifiée pour: CANADA and U.S.A.
Report No. 476-1714-00 (Oct. 1999)
Tested to: ANSI Z21.88-1998/CSA 2.33-M98, CAN1-2.19M81 CAN/CGA 2.17-M91

WATERFORD IRISH STOVES

DO NOT REMOVE OR COVER THIS LA
NE PAS ENLEVER CETTE ÉTIQU

Serial no./ **242**
No de serie

E61-NG & E61-LP Component:Zero Clearance Kit Model # 270-900

When installing the E61-NG or E61-LP into the Zero Clearance Kit Model : 270-900, the following changes are required on the Gas Insert:

	E61-NG (Natural Gas)	E61-LP (Propane)	
Factory Equipped for Altitude 0-2000 ft.			
Output -fan OFF	30,590 Btu/h (8.97 Kwh)	28,630 Btu/h (8.39 Kwh)	Débit Calorifique-Ventilateur Éteint Btu/h
Output -fan ON	31,106 Btu/h (9.13 Kw/h)	29,225 Btu/h (8.57 Kw/h)	Débit Calorifique-Ventilateur en Marche Btu/h
Altitude	0-2000 ft/pi (0-610m)	0-2000 ft/pi (0-610m)	L'altitude
Convertible for Altitude 2000-4500 ft.			
Output -fan OFF	29,060 Btu/h (8.52 Kwh)		Débit Calorifique-Ventilateur Éteint Btu/h
Output -fan ON	29,602 Btu/h (8.68 Kw/h)		Débit Calorifique-Ventilateur en Marche Btu/h
Altitude	2000-4500 ft/pi (610-1372m)		L'altitude

Natural Gas: Convertible to 27,000 Btu to 27,000 Btu for Altitude 0 - 4500 ft. with Kit #: 260-920
Propane: Convertible to 28,000 Btu for Altitude 0 - 4500 ft. with Kit #: 260-922

	E61-NG (Natural Gas)	E61-LP (Propane)	
Maximum Input	27,000 Btu/h (7.91 Kw/h)	28,000 Btu/h (8.21 Kw/h)	Débit Calorifique maximum
Minimum Input	13,500 Btu/h (3.95 Kw/h)	14,000 Btu/h (4.1 Kw/h)	Débit Calorifique minimum
Orifice size	#40 DMS (2.49mm)	#40 DMS (2.49mm)	Dimensions de l'orifice
Output -fan OFF	21,735 Btu/h (6.37 Kwh)	23,100 Btu/h (6.77 Kwh)	Débit Calorifique-Ventilateur Éteint Btu/h
Output -fan ON	22,275 Btu/h (6.53 Kw/h)	23,604 Btu/h (6.92 Kw/h)	Débit Calorifique-Ventilateur en Marche Btu/h
Altitude	0-4500 ft/pi (0-1372m)	0-4500 ft/pi (0-1372m)	L'altitude

Not for use with solid fuel.
See Manual for installation instructions.

Made in Canada/ Fabrique au Canada
FPI Fireplace Products International Ltd., Delta, BC, Canada

**Minimum Clearances t
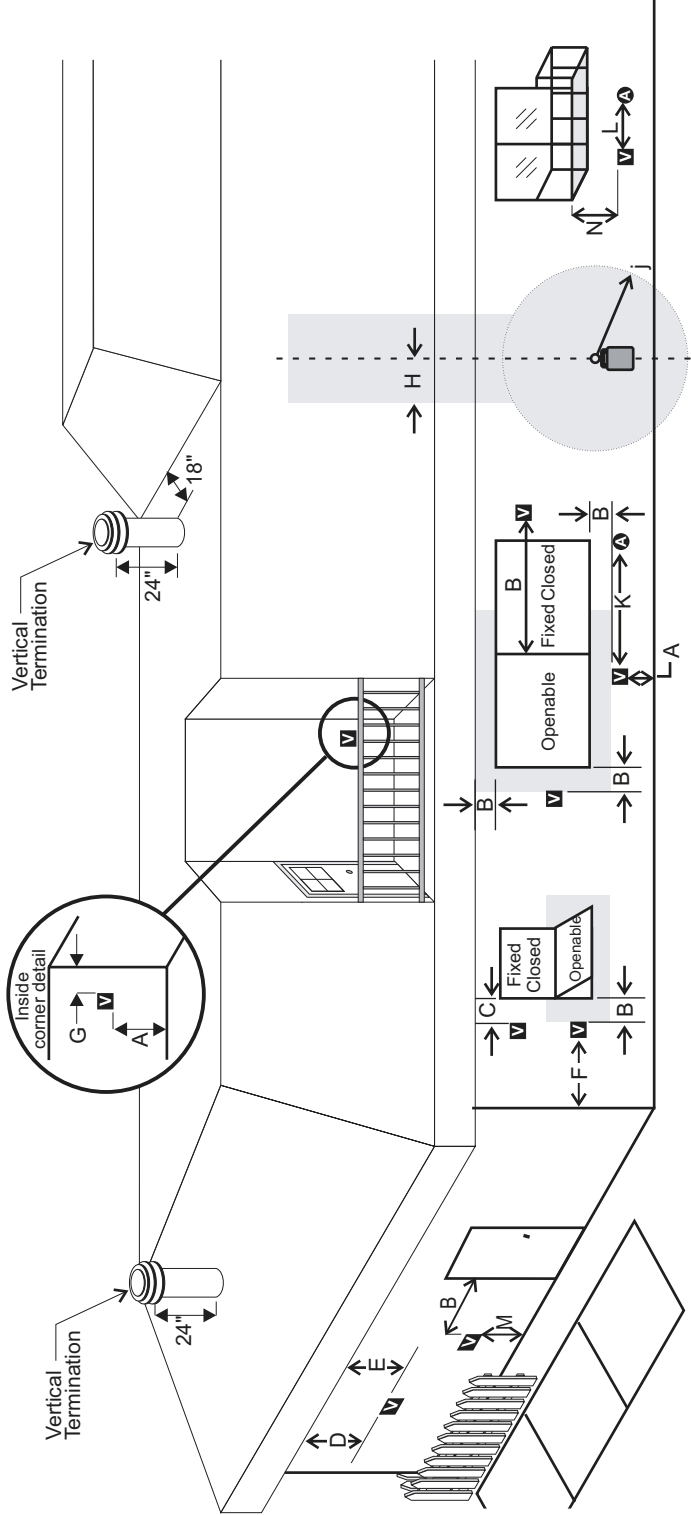Combustibles/
Degagement Minimun
De Materiaux Combustik**
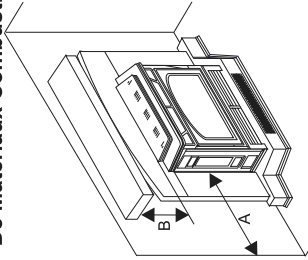
Unit to Sidewalls A 12"/30ξ
Top of Hob to mantel:
  unshielded B 16"/40ξ
  shielded B 12"/30ξ
To ceiling from top of stove:
  36"/ 915mm

**Clearances to Combustible
from Standoffs:**

Side	**0" (0 mm)**
Back	**0" (0 mm)**
Bottom	**0" (0 mm)**
Top	**44.5" (1130**

908-444

EXTERIOR VENT TERMINAL LOCATIONS

V Vent terminal

A Air supply outlet

Area where terminal is not permitted

A= Clearance above grade, veranda, porch, deck, or balcony *(min. 12"/30cm)
B= Clearance to window or door that may be opened *(12"/30cm)
C= Clearance to permanently closed window *(min. 12"/30cm)
D= Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of (24"/60cm) from the centerline of the terminal (min. 18"/46cm) check with local code.
E= Clearance to unventilated soffit (min. 12"/30cm)
F= Clearance to outside corner: with AstroCap Termination Cap (min. 6"/ 15cm), with Dura-Vent Termination Cap (min.12"/30cm)
G= Clearance to inside corner: with AstroCap Termination Cap (min. 6"/15cm), with Dura-Vent Termination Cap (min.12"/30cm)
H= Not to be installed above a meter/regulator assembly within (3'/90cm)

J= horizontally from the centerline of the regulator.
Clearance to service regulator vent outlet *(Canada: min. 72"/1.8m, USA: min 36"/90cm)
K= Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance *(12"/30cm)
L= Clearance to a mechanical air supply inlet *(min. 72"/1.8m)
M= **Clearance above paved sidewalk or a paved driveway located on public property *(min. 84"/2.1m)
N= Clearance under veranda, porch, deck, or balcony *(min. 12"/30cm)***

Note: * As specified in CGA B149 Installation Code. Note: Local codes or regulations may require different clearances.
**A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.
***Only permitted if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

FRAMING

1) The cabinet face panels have a 1/2" lip to define the zones for combustible and non-combustible facing materials: outside the lip, any material up to 1/2" (13mm) may be used; inside the lip, only non-combustible materials may be used (with a maximum thickness of 1-1/2" (38mm)). The kit may be installed directly on and/or against standard combustible building materials.
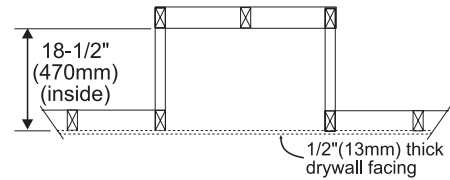
2) Frame in the enclosure for the Kit with framing material. The framed opening for the assembled kit is 52" (1321 mm) high x 50-1/4" (1276 mm) wide x 18-1/2" (470 mm) deep. See diagram.

If the interior of the cabinet framing is finished (with sheet rock, for example), The dimensions given are from the inside of the finished surfaces. The ceiling inside the framed enclosure should be a minimum of 55-1/2" (1410mm) from the base of the plinth.
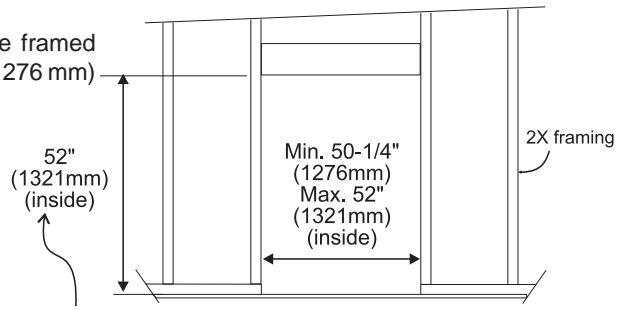
3) For exterior walls, use a vapour barrier and insulate the enclosure to the same degree as the rest of the house, or according to local installation codes. In colder climates, if the heater is to be installed against an exterior wall or chase, insulate the exterior walls according to local installation codes.

18-1/2" (470mm) (inside)

1/2"(13mm) thick drywall facing

52" (1321mm) (inside)

Min. 50-1/4" (1276mm) Max. 52" (1321mm) (inside)

2X framing

Framing Height of 52" is calculated from the base of the plinth; the height of any raised hearth must be added to this.

ZERO CLEARANCE KIT ASSEMBLY

Parts Included with Kit:
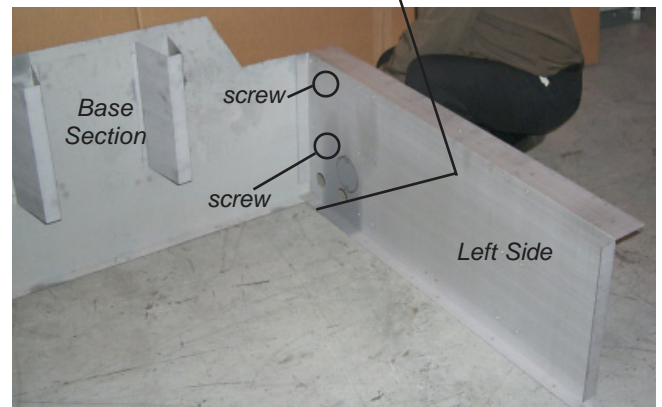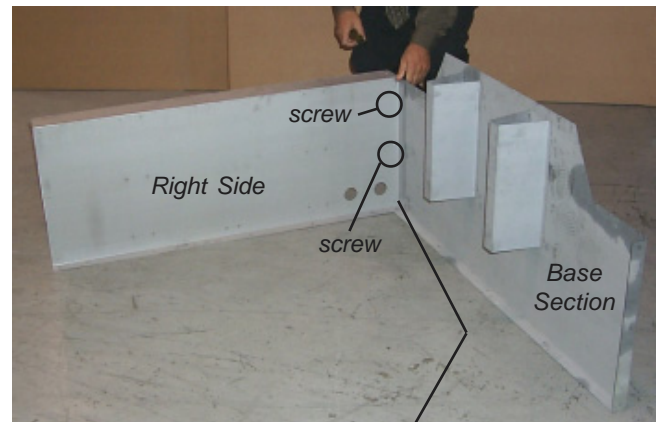
2 Back sections
2 Side
1 Base
1 Top
2 Front Face Side Panel
1 Front Face Top Panel
2 Top Standoffs
2 Extension Legs
1 Plinth

All pieces join together using the sheet metal screws that are provided with the kit.

Assemble the Cabinet

1) Assemble the Sides and Base sections. The Side sections fit inside the lip of the Base section. The wider flange on the Side section is on the front of the kit.

Secure with 2 screws on each side. Leave the 3rd screw (closest to the rear) until the Back section is attached.

screw

Right Side

screw

Base Section

Do not install the third screw until the back panel is installed.

Base Section

screw

screw

Left Side

INSTALLATION

2) Set the assembled Side and Base sections upright. Slide the Lower Back (the section with 4 holes) down the inside of Side flanges (make sure the 4 holes are closest to the floor - see photo).

Secure with 2 screws on each side, and 11 screws on the back.

Right Side

screw

Attach with 2 screws on the side. Repeat for Left Side

Attach with 11 screws on the side.

3) Slide the Upper Back Section down the inside of the Side flanges.

Secure to the Lower Back Section with 4 screws (from the inside).

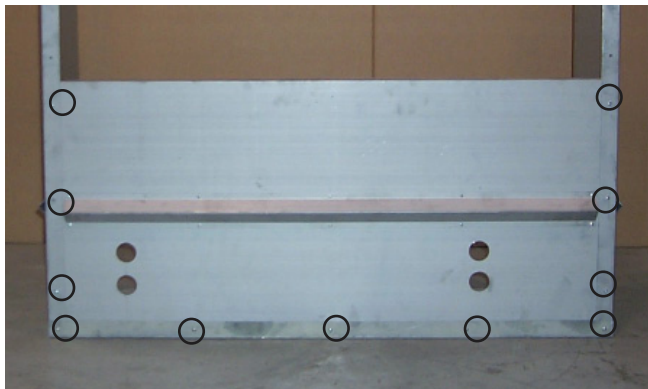

From the outside, secure with 2 screws on each side.
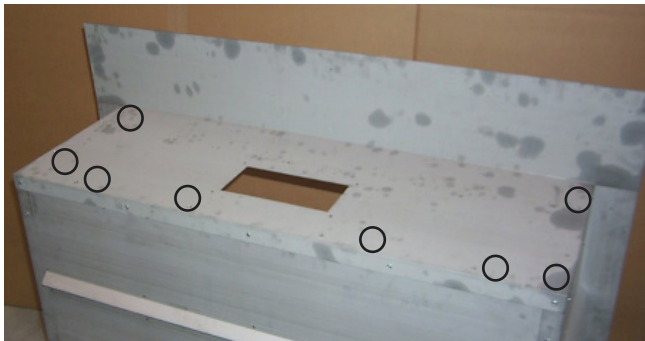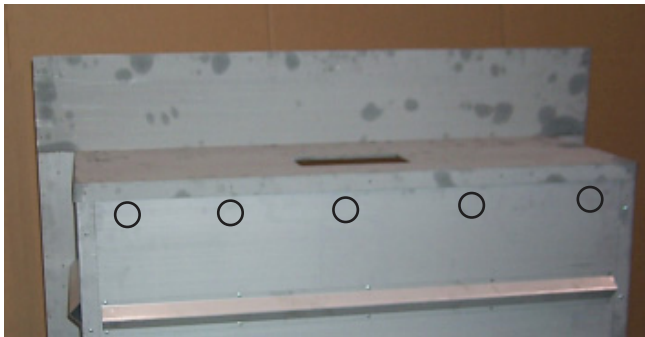
Secure with 6 screws on the back. Leave the top screw holes until the top is attached.

4) Install the Top. Hold the top so that the large vertical flange is at the front of the cabinet and fit it down over the Side/Back assembly. Secure the top to the assembly using 3 screws on each side and 5 through the back and 8 on top.

5) Assemble the 2 top Standoffs. The Top Standoffs are shipped flat and must be folded at the bend lines into the correct shape.

bend here
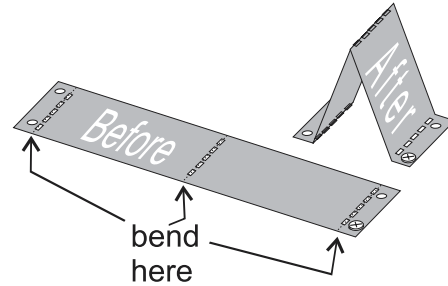
Attach the Right Standoff to the top using the 4 holes at the front right of the top. Install the Left Standoff to the 4 holes at the front left.

*Left and Right Standoffs in position and attached with 4 screws each.*

6) Assemble the flue adaptor box. Slide the flex vent pipe over the small vent opening on the base of the adaptor box and secure with a clamp. Repeat for the 2nd flex vent pipe.

Use silicone to seal the connection.

INSTALLATION

7) Drop the Flue Adaptor assembly into the hole on the top section and secure from the top with 4 screws.
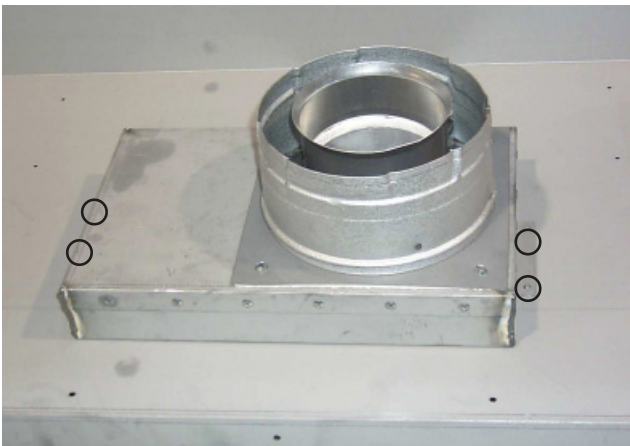
Secure the flue adaptor box to the top with 4 screws from the top.

8) Assemble the Face Panels (left, right, and top), all 3 Face panels are installed loosely, and then attached to the cabinet body.

Secure the Left and Right Panels to the top with 1 screw each. Make sure that the outside edges are aligned.
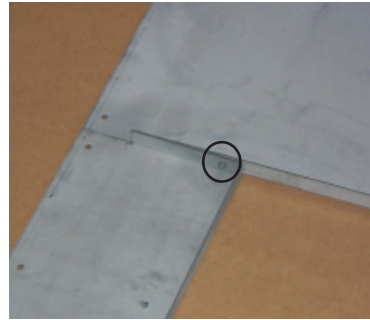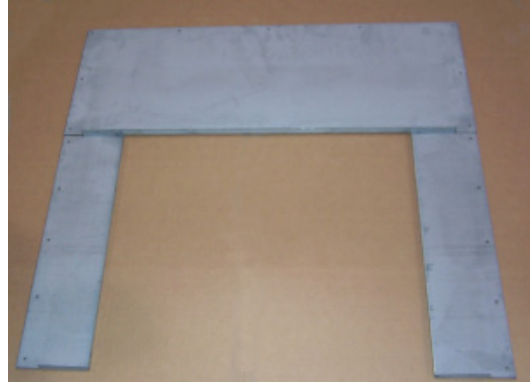
Fit the assembled Side & Top Face Panels to the front of the cabinet and secure with 19 screws.

Attach the Cabinet to the Framing

Slide the cabinet into the frame constructed previously and secure with nails or sheet rock screws, installing a fastener into at least every other hole.

Warning: Combustible materials must not extend inside the stand-offs on the side, top and rear supports. For safety reasons do not modify or alter any components of the Kit.
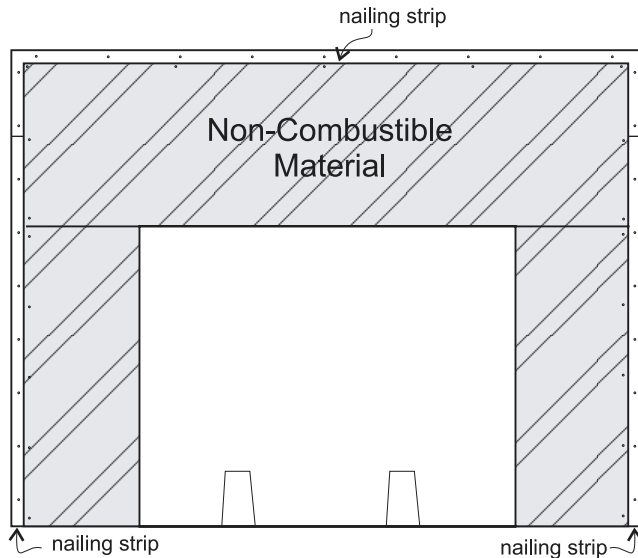

Any non-combustible facing materials (such as ceramic tile or masonry face brick) up to 1-1/2" (38mm) thick may be used to finish the area inside the 1/2" (13mm) lip on the face panels. Non-combustible tile backer board such as Wonderboard or Durock , or metal lath or screen may be fastened directly to the front of the face panels to provide a base for attaching facing materials if needed.

If a combustible mantel is desired, it must be above the 1/2" (13mm) lip on the Top Face panel, a minimum of 24" for the top of the insert hob. This includes both the mantel itself and any trim below the mantel. A completely non-combustible mantel, such as stone, may be placed wherever desired.

Install the Insert

1) Remove the hob and surround from the top of the unit for access into the cabinet during installation. Slide the unit into the cabinet on top of the bottom standoffs.

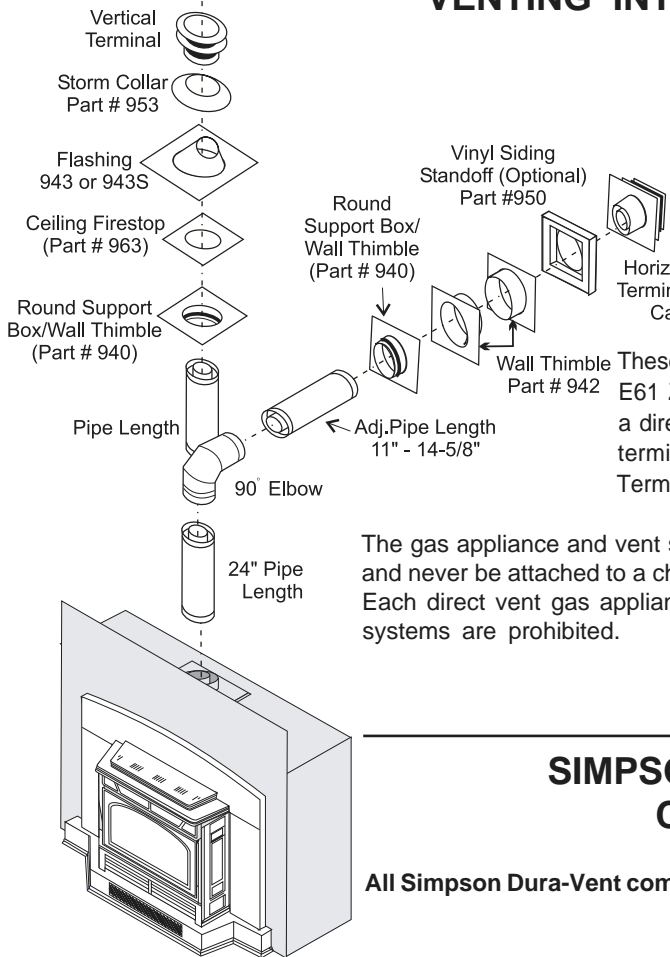2) Connect the flue and make all connections according to the instructions in the Venting section.
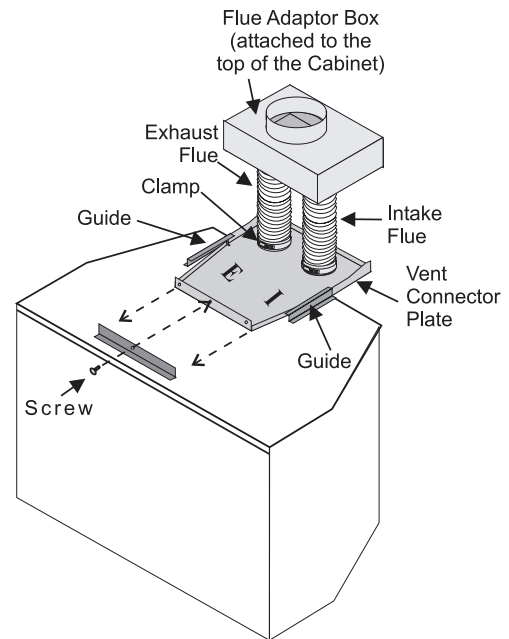
3) Re-install the hob and surround.

4) Slide the Plinth into position with about 1/8" (3mm) clearance to the bottom of the insert front and side surround panels.

INSTALLATION

VENTING INTRODUCTION

Vertical Terminal

Storm Collar Part # 953

Flashing 943 or 943S

Ceiling Firestop (Part # 963)

Round Support Box/Wall Thimble (Part # 940)

Vinyl Siding Standoff (Optional) Part #950

Round Support Box/ Wall Thimble (Part # 940)

Horizontal Termination Cap

Wall Thimble Part # 942

Pipe Length

Adj.Pipe Length 11" - 14-5/8"

90° Elbow

24" Pipe Length

The E61 Emerald Insert uses the "balanced flue" technology Co Axial system. The inner liner vents products of combustion to the outside while the outer liner draws outside combustion air into the combustion chamber thereby eliminating the need to use heated room air for combustion and losing warm room air up the chimney.

Note: *These flue pipes must not be connected to any other appliance.*

These venting systems, in combination with the E61 Insert and the E61 Zero Clearance Kit # 230-900, have been tested and listed as a direct vent heater system by Warnock Hersey. The location of the termination cap must conform to the requirements in the Vent Terminal Locations diagram on page 6.

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. Common vent systems are prohibited.

SIMPSON DURA-VENT VENTING COMPONENTS LIST

All Simpson Dura-Vent components are available directly from Regency.

Part #	Description
971	Horiz. Termination Kit includes: 90° black elbow, wall thimble cover, horiz. square termination cap, 24" black pipe, 11" -14" 5/8" adjustable black pipe
970	Basic Horiz. Termination. Kit includes: 90° black elbow, wall thimble cover, horiz. square termination cap
978	Vert. Termination Kit includes 0/12 - 6/12 pitch adjustable flashing, storm collar, low profile term. cap
908B	6" Pipe Length - Black
907B	9" Pipe Length - Black
906	12" Pipe Length - Galv.
906B	12" Pipe Length - Black
904	24" Pipe Length - Galv.
904B	24" Pipe Length - Black
903	36" Pipe Length - Galv.
903B	36" Pipe Length - Black
902	48" Pipe Length - Galv.
902B	48" Pipe Length - Black
911B	11"-14 5/8" Adjustable Pipe Length - Black
917B	17"- 24" Adjustable Length - Black

Part #	Description
990	90° Elbow - Galv.
990B	90° Elbow - Black
990G	90° Elbow - Swivel - Galv.
990BG	90° Elbow - Swivel - Black
991	High Wind Termination Cap (Vertical)
980	Vertical Termination Cap
984	Horizontal Square Termination Cap
985	Horizontal Square High Wind Termination Cap
940	Wall Thimble - Support/Box
941	Cathedral/Ceiling - Support/Box
3951	Brass Trim for Cathedral
963	Firestop Spacer
943	Flashing 0/12-6/12
943S	Flashing 7/12-12/12
953	Storm Collar
950	Vinyl Siding Standoff
988	Wall Strap
942	Wall Thimble

Parts not supplied by Dura-Vent
946-506/P	Vent Guard (Optional)
946-523	*AstroCap* Termination Cap

VENTING ARRANGEMENTS - HORIZONTAL TERMINATIONS
SIMPSON DURA-VENT DIRECT VENT GS SYSTEM (Propane & Natural Gas)

Diagram 1 shows allowable combinations of vertical run with horizontal terminations, <u>using one 90° elbow.</u>

ONLY FOR USE WITH THE REDUCTION KIT TO LOWER BTU RATING KIT # 260-920 (NATURAL GAS AT 27,000 BTU) OR KIT # 260-922 (PROPANE AT 29,000).
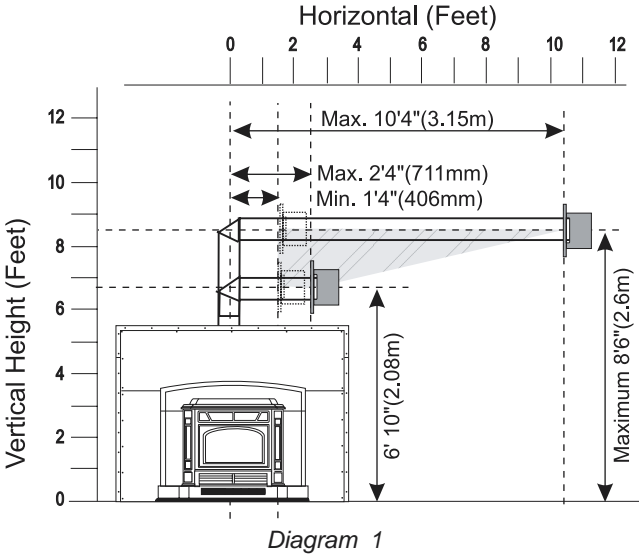
Diagram 1

Simpson Dura-Vent
4" inner diameter
6-5/8" outer diameter

A vent guard should be used whenever the termination is lower than the specified minimum or as per local codes.

- **Maintain a <u>1-1/4"</u> clearance to combustibles (<u>1-1/2"</u> with Flex).**
- **Firestops are required at each floor level and whenever passing through a wall.**

VENTING ARRANGEMENTS - VERTICAL TERMINATIONS
SIMPSON DURA-VENT DIRECT VENT GS SYSTEM (Propane & Natural Gas)

Diagram 2 shows allowable straight vertical with **Simpson Dura-Vent Direct Vent GS** vent systems for Propane and Natural Gas.

- **Firestops are required at each floor level and whenever passing through a wall.**
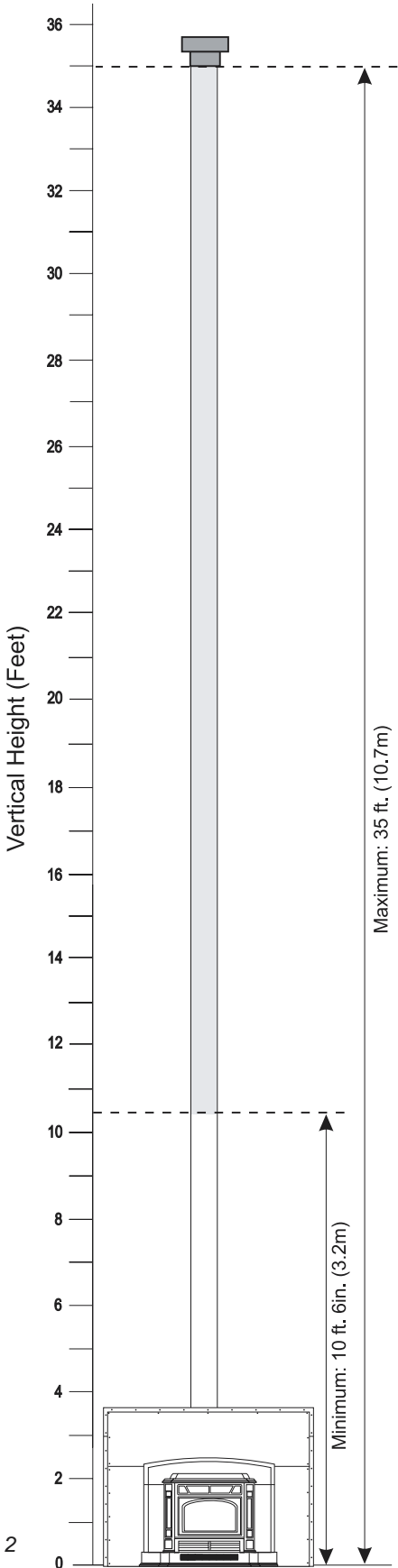- **Maintain a <u>1-1/4"</u> clearance to combustibles**

Diagram 2

INSTALLATION

HORIZONTAL INSTALLATIONS

Install the vent system according to the manufacturer's instructions included with the components.

1) Set the unit in its desired location. Check to determine if wall studs or roof rafters are in the way when the venting system is attached. If this is the case, you may want to adjust the location of the unit. Rough in the gas preferably on the right side of the unit and the electrical (junction block is on the left side) on the left.

2) Direct Vent pipe and fittings are designed with special twist-lock connections to connect the venting system to the appliance flue outlet.

3) Put a bead of silicone inside the outer section of the adapter and a bead of Mill-Pac on the inner collar. Slip the adapter over the existing inner and outer flue collar and fasten to the outer collar only with the 3 supplied screws (drilling pilot holes will make this easier). Level the fireplace and fasten it to the framing using nails or screws through the nailing strips.

4) Assemble the desired combination of pipe and elbow to the appliance adaptor and twist-lock for a solid connection.
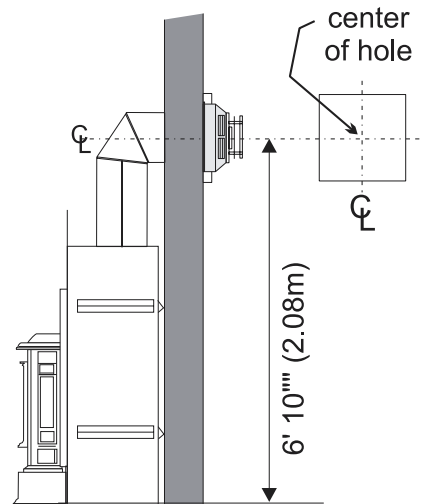
Note:

a) Twist-lock procedure: Four indentations, located on the female ends of pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings, by orienting the four pipe indentations so they match and slide in to the four entry slots on the male ends, Dia. 1. Push the pipe sections completely together, then twist-lock one section clockwise approximately one-quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the Black Pipe or fittings. They may be located by examining the inside of the female ends.

Note: **Apply sealant "Mill-Pac" to inner pipe and high temperature silicone sealant to outer pipe on every twist-lock joint.**
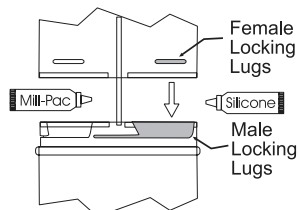

Dia. 1

b) Horizontal runs of vent must be supported every three feet. Wall straps are available for this purpose.

5) Mark the wall for a 10" x 10" square hole. The center of the square hole should line up with the centerline of the horizontal pipe. Cut and frame the 10 inch square hole in the exterior wall where the vent will be terminated. If the wall being penetrated is constructed of non-combustible material, i.e. masonry block or concrete, a 7"(178mm) dia. (7-1/2"(191mm) dia. for flex) hole is acceptable. Diagram 2.

Dia. 2

Note:

a) The horizontal run of vent must be level, or have a 1/4 inch rise for every 1 foot of run towards the termination. Never allow the vent to run downward. This could cause high temperatures and may present the possibility of a fire.

b) The location of the horizontal vent termination on an exterior wall must meet all local and national building codes, and must not be blocked or obstructed. For External Vent Terminal Locations, see diagram in the manual.

6) **The arrow on the vent cap should be pointing up.** Insure that the 1-1/2" clearances to combustible materials are maintained (Dia. 3). Install the termination cap.
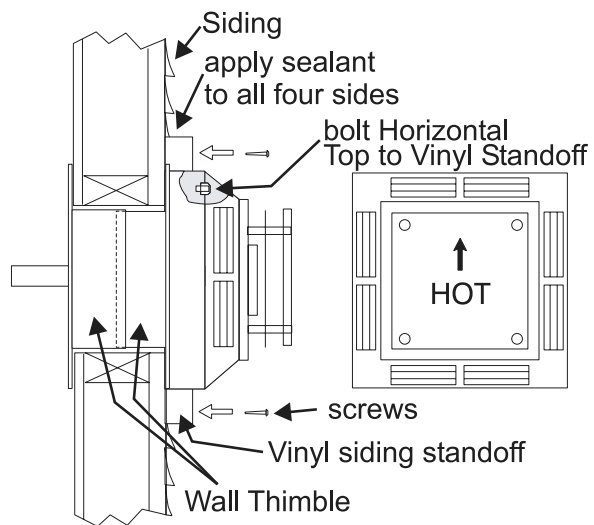

Dia. 3

The four wood screws provided should be replaced with appropriate fasteners for stucco, brick, concrete, or other types of sidings.

Note: **If installing termination on a siding covered wall, a vinyl siding standoff or furring strips must be used to ensure that the termination is not recessed into the siding.**

7) Before connecting the horizontal run of vent pipe to the vent termination, slide the Wall Thimble (Part # 620-926) over the vent pipe.

8) Slide the appliance and vent assembly towards the wall carefully inserting the vent pipe into the vent cap assembly. It is important that the vent pipe extends into the vent cap sufficient distance so as to result in a minimum pipe overlap of 1-1/4 inches. Secure the connection between the vent pipe and the vent cap by attaching the two sheet metal strips extending from the vent cap assembly into the outer wall of the vent pipe. Use the two sheet metal screws provided to connect the strips to the pipe section. See Dia. 4.
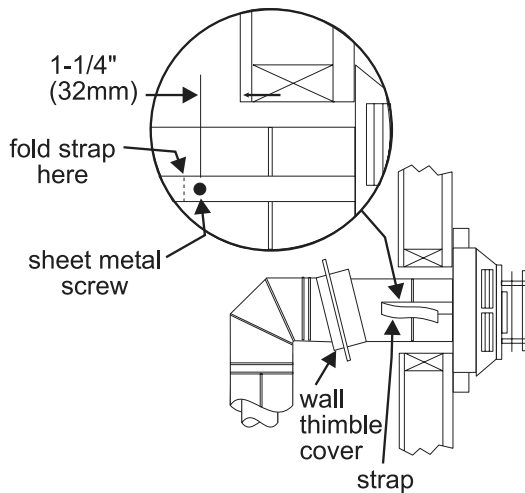
Dia. 4

9) Install wall thimble in the center of the 10" square and attach with wood screws (Dia 5).
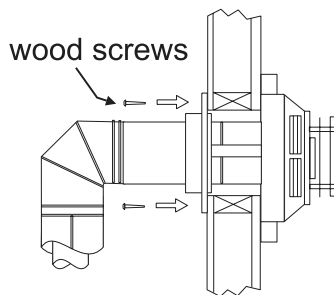
Dia. 5

VERTICAL TERMINATION

1) Maintain the 1-1/2" clearances (air spaces) to combustibles when passing through ceilings, walls, roofs, enclosures, attic rafter, or other nearby combustible surfaces. Do not pack air spaces with insulation. Check page 13 for the maximum vertical rise of the venting system.

2) Set the gas appliance in its desired location. Drop a plumb bob down from the ceiling to the position of the appliance flue exit, and mark the location where the vent will penetrate the ceiling. Drill a small hole at his point. Next, drop a plumb bob from the roof to the hole previously drilled in the ceiling, and mark the spot where the vent will penetrate the roof. Determine if ceiling joists, roof rafters or other framing will obstruct the venting system.