

INSTALLATION INSTRUCTIONS FOR SOLID VENT KIT PART NUMBER **239-47811-00**

WARNING

The vent-air intake system must be properly installed. Failure to properly install the vent-air intake system could result in property damage, personal injury or death.

DO NOT install any damaged vent-air intake system components.
Contact the manufacturer of the water heater for replacement parts.

This vent kit is designed to bring all air for combustion from the outside and vent all the combustion products to the outside when properly installed. This vent kit should only be used with direct vent water heaters that were designed to use this vent kit. Refer to the label on the water heater to determine if this kit is the correct kit for the water heater that you are installing. Consult the supplier of the water heater if you are not certain that this is the correct vent kit. Refer to the information in these instructions and the instructions provided with the water heater when determining the location of the vent terminal and water heater.

The vent system must terminate so that proper clearances are maintained as cited in local codes or the latest edition of the National Fuel Gas Code, ANSI Z223.1 as follows:

1. Do not terminate near soffit vents or crawl space or other area where condensate or vapor could create a nuisance or hazard or cause property damage.
2. Do not terminate the exhaust vent terminal where condensate or vapor could cause damage or could be detrimental to the operation of regulators, relief valves, or other equipment.
3. Do not terminate the exhaust vent terminal over public area or walkways where condensate or vapor can cause nuisance or hazard.
4. The vent shall terminate a minimum of 12 inches above expected snowfall level to prevent blockage of vent termination.

Vent pipes serving direct vent appliances are classified by building codes as “vent connectors”. Required clearances from combustible materials must be provided in accordance with information in this manual under LOCATION OF WATER HEATER and CLEARANCES, and with National Fuel Gas Code and local code

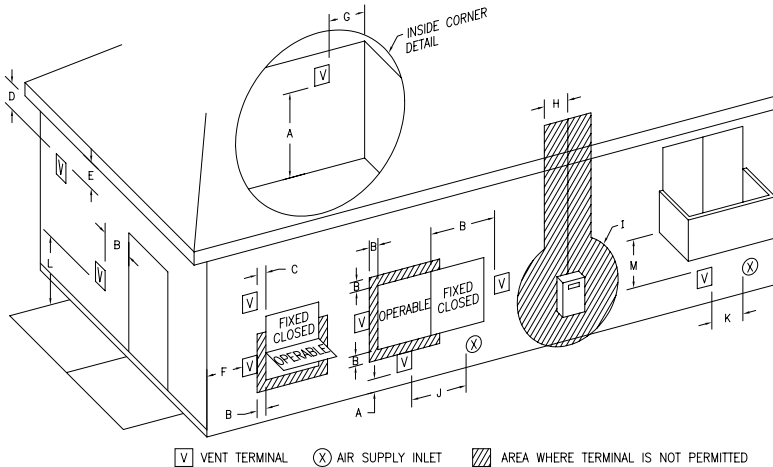


Figure 1

Direct Vent Terminal Clearances

		Canadian Installations ¹	US Installations ²
A=	Clearance above grade, veranda, porch, deck or balcony	12 inches (30 cm)	12 inches (30 cm)
B=	Clearance to widow or door that may be opened	12 inches (30 cm)	9 inches (23 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 50,000 Btuh (15 kW), 12 inches (30 cm) for appliances > 50,000 Btuh (15 kW)
C=	Clearance to permanently closed widow	*b	*b
D=	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	12 inches (30 cm) *a	12 inches (30 cm) *a
E=	Clearance to unventilated soffit	12 inches (30 cm) *a	12 inches (30 cm) *a
F=	Clearance to outside corner	*b	*b
G=	Clearance to inside corner	*b	*b
H=	Clearance to each side of center line extended above meter/regulator assembly	3 feet (91 cm) within a height 15 feet (4.6 m) above the meter/regulator assembly	*b
I=	Clearance to service regulator vent outlet or oil tank vent	36 inches (91 cm)	*b
J=	Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	12 inches (30 cm)	9 inches (23 cm) for appliances > 10,000 Btuh (3 kW) and ≤ 50,000 Btuh (15 kW), 12 inches (30 cm) for appliances > 50,000 Btuh (15 kW)
K=	Clearance to a mechanical air supply inlet	6 feet (1.83 m)	3 feet (91 cm) above if within 10 feet horizontally
L=	Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m)†	*b
M=	Clearance under a veranda, porch, deck, or balcony	12 inches (30 cm) ‡	*b

¹ In accordance with the current CAN/CGA-B149 *Installation Codes*.

² In accordance with the current ANSI Z223.1-(Latest edition)/NFPA 54 *National Fuel Gas Code*.

† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single-family dwellings and serves both dwellings.

‡ Permitted only if a veranda, porch, deck or balcony is fully open on a minimum of two sides beneath the floor.

*a) A minimum clearance value determined by testing in accordance with section 2.20.

*b) "Clearance in accordance with local installation codes and the requirements of the gas supplier".

IMPORTANT – Refer to parts list in the back of this manual and become familiar with the parts named in kit.

The co-axial vent-air intake tubes of this water heater can be installed in any 360° configuration as long as the proper clearances for installation, plumbing, operation and servicing are maintained. (See Figure 2).

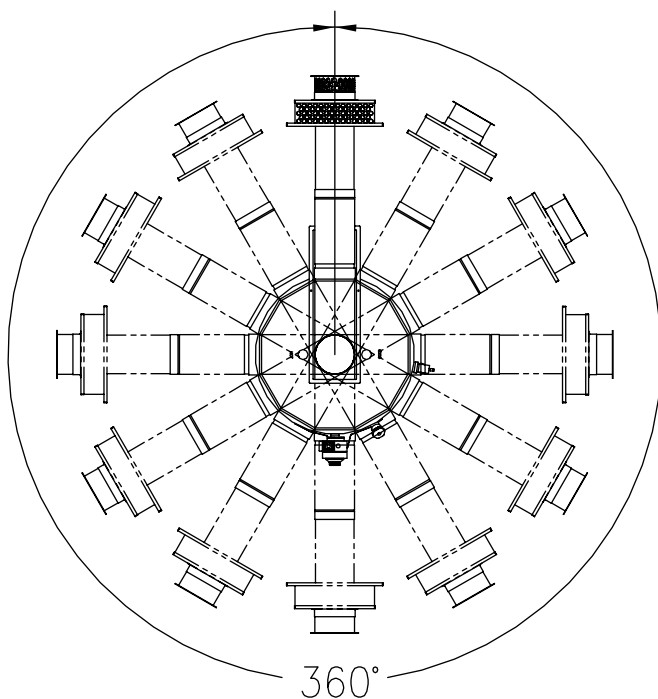


Figure 2.

Note: Maintain proper clearances for installation, plumbing, operation and service.

⚠ WARNING

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HORIZONTAL AND VERTICAL VENT-AIR INTAKE LENGTHS

Optional vent-air intake kits are available that can extend the horizontal length and/or vertical height of the vent-air intake system. Table A lists the various vertical and horizontal vent air-air intake system configurations.

The following components are found in the standard vent and air intake kit, P/N 239-42979-00 (kit H). This kit, as well as all optional vent and air intake kits must be ordered separately from the manufacturer shown on the rating plate.

- 4" Vent Tube*

6" Air Intake Tube

Vent Terminal

Inner Wall Term. Mounting Flange

Outer Wall Term. Mounting Flange
- Vent Terminal Hardware

RTV Silicone Sealant

4" Vent Elbow

6" Air Intake Elbow

- The vent and air intake telescopes from 13 3/4" to 23 11/16".

Table A

		Horizontal "X"				
		16 1/4 17 3/16	18 20 11/16	25 1/4 35 3/16	37 3/4 57 7/8	61 5/16 107 5/16
Vertical "Y"	11 9/16	order kit F	order kit G	no add'l kit req'd	order kit H	order kit I
	16 5/16 17 1/4	*order kit F (2)	order kit G & F	order kit F	order kit H & F	order kit F & I
	18 1/16 20 3/4	order kit F & G	order kit G (2)	order kit G	order kit G & H	order kit G & I
	25 5/16 35 1/4	order kit F	order kit G	order kit H	order kit H (2)	order kit I
	38 1/16 57 15/16	order kit H & F	order kit H & G	order kit H (2)	order kit H (3)	order kit H & I
	61 3/8 107 3/8	order kit I & F	order kit I & G	order kit I	order kit I & H	order kit I (2)

- * (2) = Order two of the kits referenced.
- * (3) = Order three of the kits referenced.

The bold text above show what kit(s) are needed in addition to the standard vent and air intake tubes. If the standard vent and air intake tubes are not used in the venting system (those that do not have bold text) they can be discarded or saved.

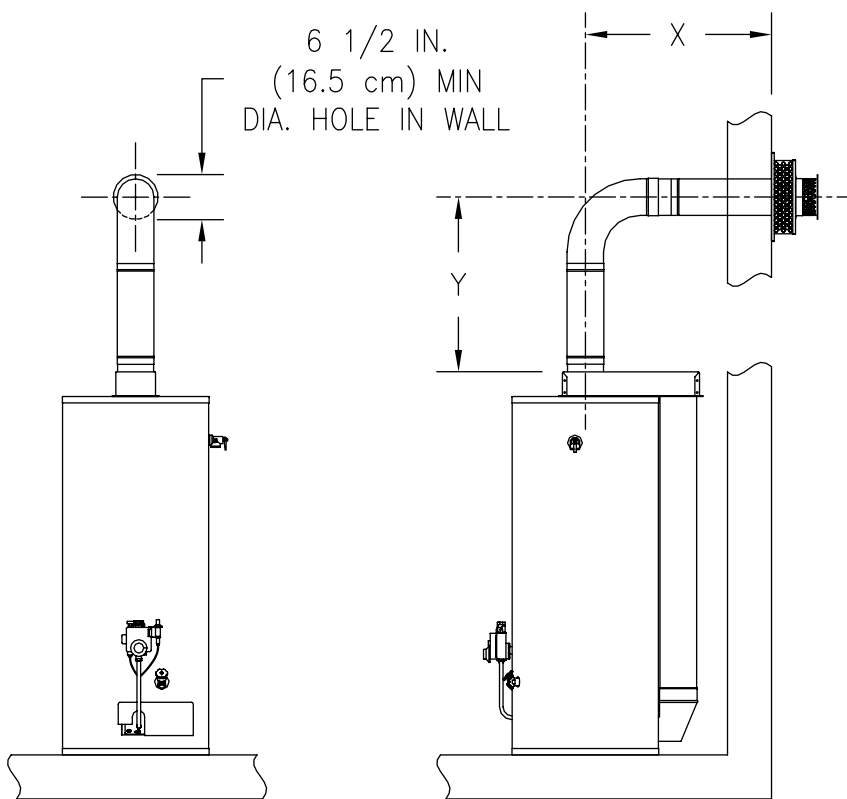


Figure 3

VENT-AIR INTAKE SYSTEM INSTALLATION

WARNING

The vent-air intake system must be properly installed. Failure to properly install the vent-air intake system could result in property damage, personal injury or death.

Do not install any damaged vent-air intake system components. Contact the manufacturer of the water heater for replacement parts.

IMPORTANT

When the following instructions specify, to seal a vent-air intake joint, use only Loctite Ultra Blue 587 RTV Silicone sealant. A tube of Loctite Ultra Blue 587 RTV Silicone sealant is supplied with each optional vent-air intake kit. Make sure that all joints are completely sealed.

When drilling pilot holes for the #8 sheet metal screws through the six (6) inch (15.2 cm) diameter components, be careful not to drill into the inner four (4) inch (10.2 cm) diameter components.

WARNING

The vent-air intake terminal must be installed through an outside wall in a horizontal position. This direct vent water heater is not designed for through the roof vertical venting.

Tools Required For Vent-Air Intake Installation

The following minimum tools are required to properly install the vent-air intake system. *Note: Wall construction will determine tool usage.*

- **Tape Measure**
- **Drill**
- **3/16 inch (4.5 mm) Diameter Drill Bit(s)**
- **1/8 inch Diameter (3.0 mm) Drill Bit(s)**
- **Masonry Drill Bit(s)** (*For Poured Concrete, Concrete Block and Brick Wall Construction*)
- **Reciprocating Saw w/appropriate Blade(s)** (*Dependent on Wall Construction*)
- **Chisel** (*For Poured Concrete, Concrete Block and Brick Wall Construction*)
- **Hammer** (*For Poured Concrete, Concrete Block and Brick Wall Construction*)
- **1/4 & 5/16 inch Nut Drivers (Preferred) or Slotted Head Screwdriver**
- **Phillips Head Screwdriver**

1. Measure the vertical height “Y” required in your installation. (See Figure 3). Reference the appropriate Table A to determine number of vent-air intake kits required in your installation.
2. Measure the horizontal length “X” required in your installation (See Figure 3). Reference Table A to determine number of vent-air intake kits required in your installation.
3. Cut a 6-1/2 inch (16.5 cm) diameter minimum clearance hole in the wall at the point where the vent-air intake tubes will pass through the outside wall and connect with the direct vent-air intake terminal (See Figure 4).
4. From outside the building, position the outer wall mount plate and direct vent-air intake terminal over the center of the opening. Mark the mounting screw hole locations. With a 3/16 inch (4.5 mm) diameter drill bit (not supplied), drill holes for the wall anchors (supplied). Install the wall anchors but **DO NOT** affix the outer wall mount plate and direct vent-air intake terminal to the wall at this time (See Figure 4). Note: Certain construction of walls may require the use of a different type of wall anchoring means than supplied. **DO NOT** modify the direct vent-air intake terminal or outer wall mount plate.

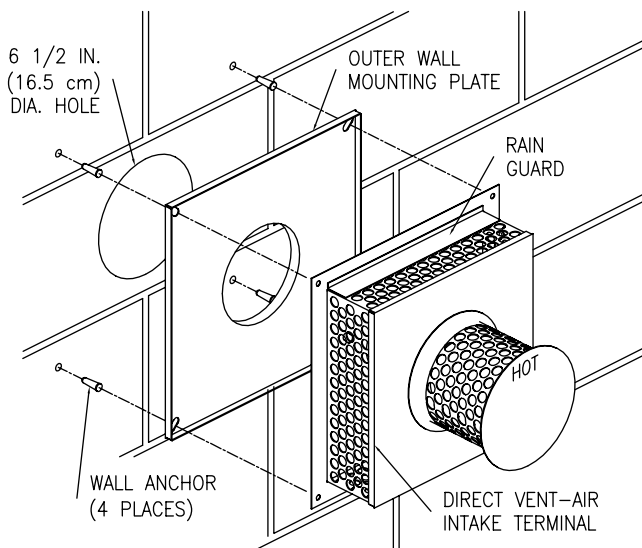


Figure 4

IMPORTANT

The following instructions detail the installation of the standard horizontal vent-air intake kit.

5. Insert the straight end of the four (4) inch (10.2 cm) diameter elbow into the flue reducer until firmly seated and oriented in the correct direction. With a 1/8 inch (3.0 mm) diameter drill bit (not supplied), drill three (3) holes, 120° apart, through the flue reducer into the four (4) inch (10.2 cm) diameter elbow. Fasten with three (3) #8 sheet metal screws (supplied). Using the supplied special RTV silicone sealant, apply a sufficient amount to seal the joint (See Figure 5).

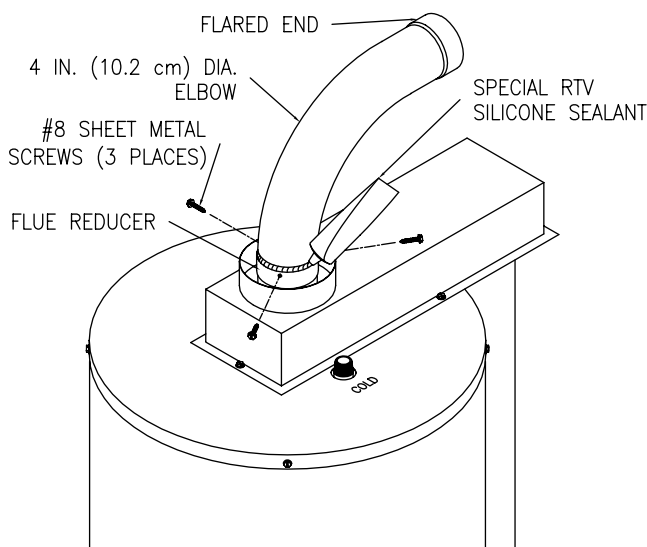


Figure 5

6. Place the straight end of the six (6) inch (15.2 cm) diameter elbow over the four (4) inch (10.2 cm) diameter elbow and plenum collar until seated on top of the plenum box. Make certain that the six (6) inch (15.2 cm) diameter elbow is oriented in the same direction as the four (4) inch (10.2 cm) diameter elbow and both are oriented in the correct direction. Drill three (3) 1/8 inch (3.0 mm) diameter holes, 120° apart, through the six (6) inch (15.2 cm) diameter elbow into the plenum collar. Fasten with three (3) #8 sheet metal screws (supplied) (See Figure 10).

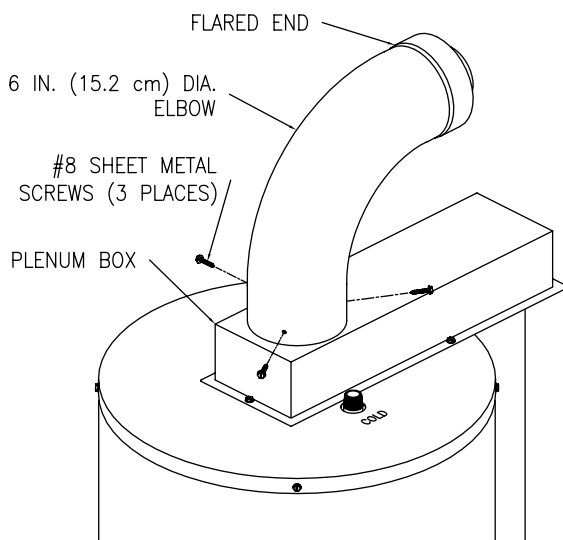


Figure 6

7. Extend the four (4) inch (10.2 cm) diameter telescopic tube to its maximum length and slide the backing plate over it. Place the large end of the four (4) inch (10.2 cm) diameter telescopic tube through the hole in the outside wall. Insert the smaller end of the four (4) inch (10.2 cm) diameter telescopic tube into the flared end of the four (4) inch (10.2 cm) diameter elbow, one (1) inch (2.5 cm) (or until seated). Drill three (3) 1/8 inch (3.0 mm) diameter holes, 120° apart, through the four (4) inch (10.2 cm) diameter elbow into the four (4) inch (10.2 cm) diameter telescopic tube. Fasten with three (3) #8 sheet metal screws (supplied). Adjust the overall length of the four (4) inch (10.2 cm) diameter telescopic tube so that 2-1/2 inches (6.4 cm) extends beyond the outside wall. Drill three (3) 1/8 inch (3.0 mm) diameter holes, 120° apart, through the four (4) inch (10.2) diameter telescopic tubes where the small and large sections overlap. Fasten with three (3) #8 sheet metal screws (supplied). Using the supplied special RTV silicone sealant, apply a sufficient amount to seal the joints (See Figure 6).

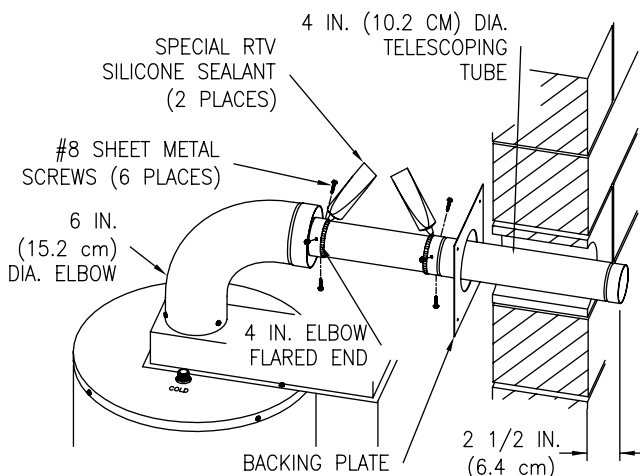


Figure 7

8. Extend the six (6) inch (15.2 cm) diameter telescopic tube to its maximum length. Place the large end of the six (6) inch (15.2 cm) diameter telescopic tube over the collar on the outer wall mounting plate. Drill three (3) 1/8 inch (3.2 mm) diameter holes, 120° apart, through the six (6) inch (15.2 cm) diameter telescopic tube into the collar on the outer wall mounting plate. Fasten with three (3) #8 sheet metal screws (supplied). Using the supplied special RTV silicone sealant, apply a sufficient amount to seal the joint (See Figure 7).

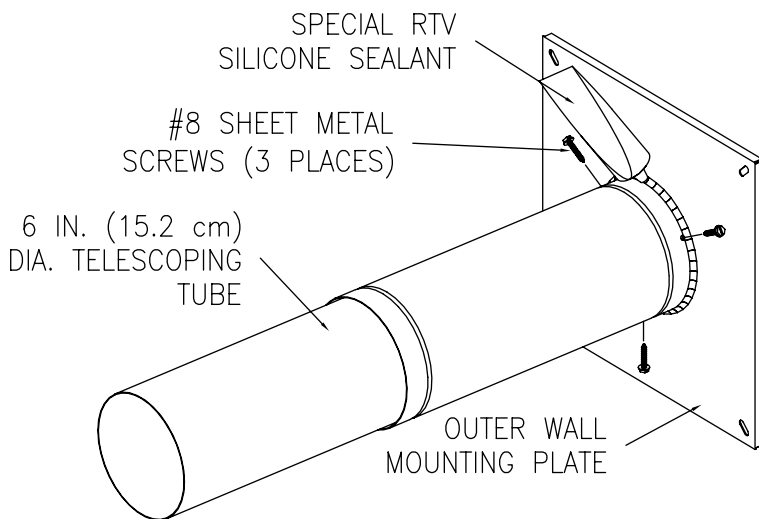


Figure 8

9. From outside the building, slide the six (6) inch (15.2 cm) diameter telescopic tube through the opening in the wall until the outer wall mounting plate is flush with the wall (See Figure 9).

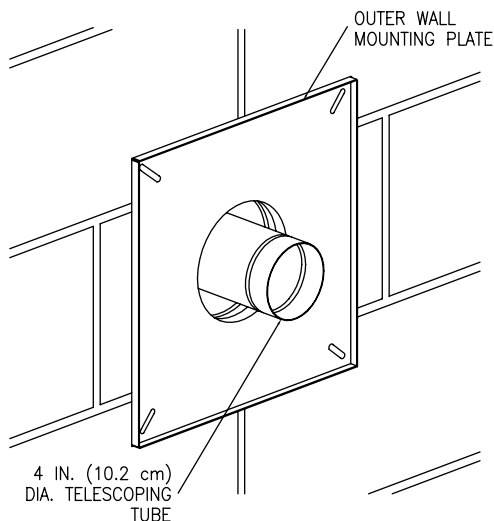


Figure 9

10. Using the supplied special RTV silicone sealant, apply a bead one (1) inch (2.5 cm) from the end of the four (4) inch (10.2 cm) diameter tube that is part of the vent-air intake terminal. Slide the direct vent-air intake terminal into the four (4) inch (10.2 cm) diameter telescopic tube that extends through the wall and position it so it is flush with the outer wall mounting plate. Make sure that the rain guard and the word "HOT" on the end of the direct vent-air intake terminal are oriented properly. Secure the direct vent-air intake terminal to the outer wall mounting plate and wall with four (4) #10 x 1 inch screws (supplied) (See Figure 10). Note: Certain construction of walls may require the use of different type of anchoring means than supplied. **DO NOT** modify the direct vent-air intake terminal or outer wall mounting plate.

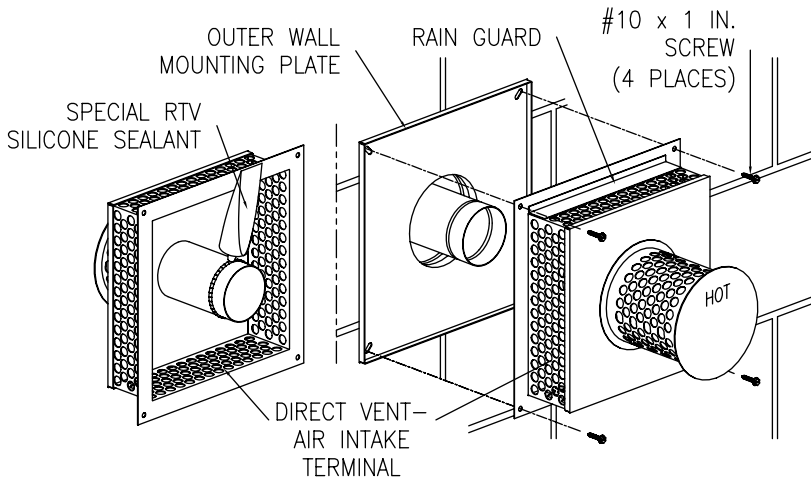


Figure 10

11. From inside the building, slide the backing plate over the six (6) inch (15.2 cm) diameter telescopic tube until it is flush with the wall. Adjust the length of the six (6) inch (15.2 cm) diameter telescopic tube and insert the end into the flared end of the six (6) inch (15.2 cm) diameter elbow one (1) inch (2.5 cm) (or until seated). Drill three (3) 1/8 inch (3.0 mm) diameter holes, 120° apart, through the six (6) inch (15.2 cm) diameter elbow into the six (6) inch (15.2 cm) diameter telescopic tube and through the tubes where the small and large sections overlap. Fasten with three (3) #8 sheet metal screws (supplied). Using the supplied special RTV silicone sealant, apply a sufficient amount to seal all joints (See Figure 11).

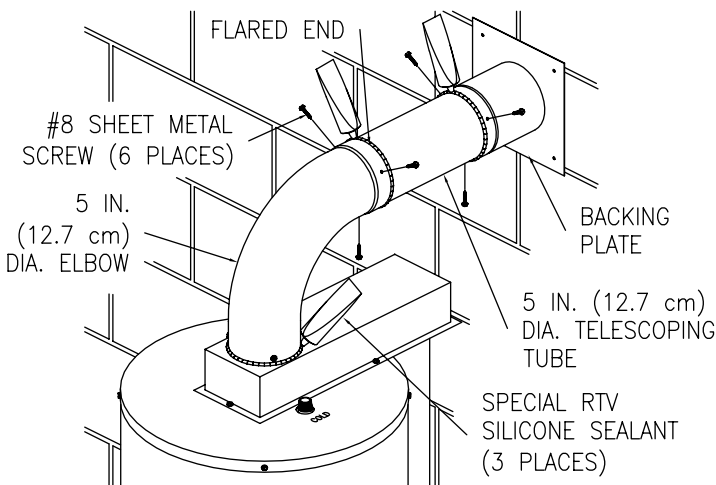


Figure 11

12. Mark the mounting screw hole locations for the backing plate. Rotate the backing plate in order to gain access to the markings. With a 3/16 (4. 5 mm) inch diameter drill bit (not supplied), drill holes for the supplied wall anchors. Install the wall anchors and secure the backing plate to the wall with four (4) #10 x 1 inch screws (supplied) (See Figure 12). Note: Certain construction of walls may require the use of a different type of anchoring means than supplied.

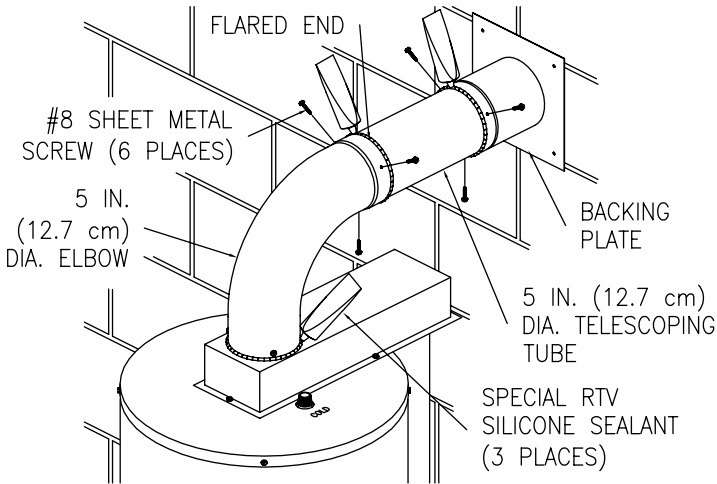
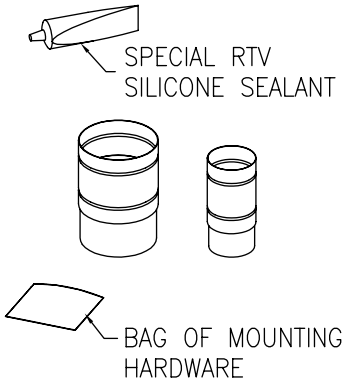
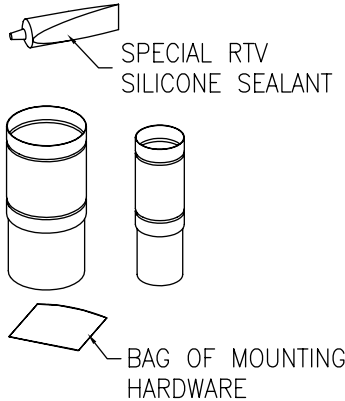
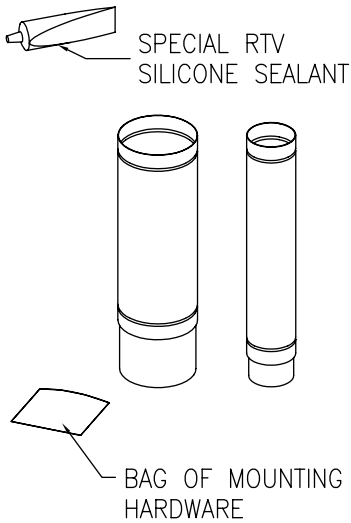
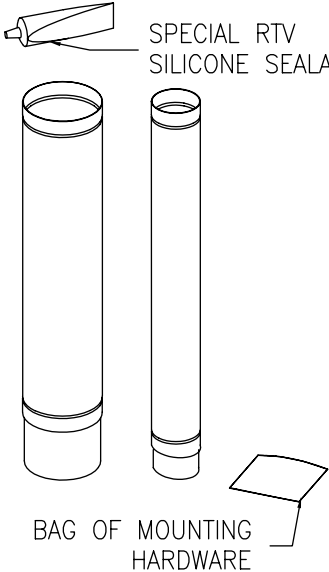


Figure 12

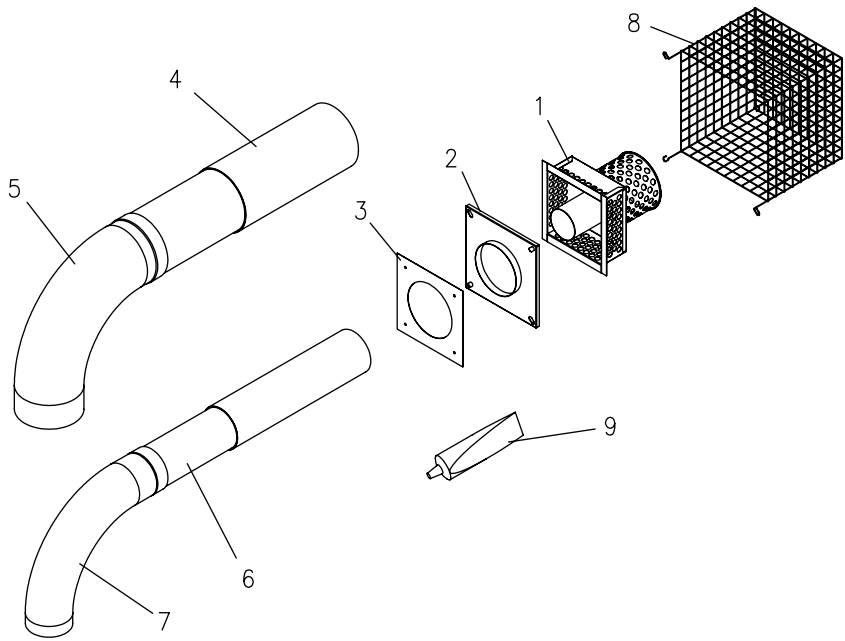
IMPORTANT

When the installation is complete, visually inspect the air intake system to insure that all joints are completely sealed.

VENT-AIR INTAKE KITS

 SPECIAL RTV SILICONE SEALANT BAG OF MOUNTING HARDWARE DIRECT VENT-AIR INTAKE KIT F (OPTIONAL)	 SPECIAL RTV SILICONE SEALANT BAG OF MOUNTING HARDWARE DIRECT VENT-AIR INTAKE KIT G (OPTIONAL)
 SPECIAL RTV SILICONE SEALANT BAG OF MOUNTING HARDWARE DIRECT VENT-AIR INTAKE KIT H (OPTIONAL)	 SPECIAL RTV SILICONE SEALANT BAG OF MOUNTING HARDWARE DIRECT VENT-AIR INTAKE KIT I (OPTIONAL)

DIRECT VENT WATER HEATER VENTING PARTS LISTS



PART NAME & DESCRIPTION			
1.	Direct Vent-Air Intake Terminal	6.	Inner Telescopic Vent Tube
2.	Outer Wall Mounting Plate	7.	Inner Elbow
3.	Inner Wall Backing Plate	8.	Vent Terminal Guard (Optional not included)
4.	Outer Telescopic Air Intake Tube	9.	Special RTV silicone sealant
5.	Outer Elbow		

NOTES