

## CONCENTRIC VENT KIT for Condensing Furnaces BAYVENT100A

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

**IMPORTANT** — This Document is **customer property** and is to remain with this unit. Please return to service information pack upon completion of work.

### ⚠ WARNING

INSTALLATION OR REPAIRS MADE BY UNQUALIFIED PERSONS CAN RESULT IN HAZARDS TO YOU AND OTHERS. INSTALLATION MUST CONFORM WITH LOCAL CODES OR, IN THE ABSENCE OF LOCAL CODES, WITH CODES OF THE COUNTRY HAVING JURISDICTION. THE INFORMATION CONTAINED IN THESE INSTRUCTIONS IS INTENDED FOR USE BY A QUALIFIED SERVICE TECHNICIAN FAMILIAR WITH SAFETY PROCEDURES AND EQUIPPED WITH THE PROPER TOOLS AND TEST INSTRUMENTS. FAILURE TO CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS IN THESE INSTRUCTIONS CAN RESULT IN FURNACE MALFUNCTION, PROPERTY DAMAGE, PERSONAL INJURY AND/OR DEATH.

#### NOTE:

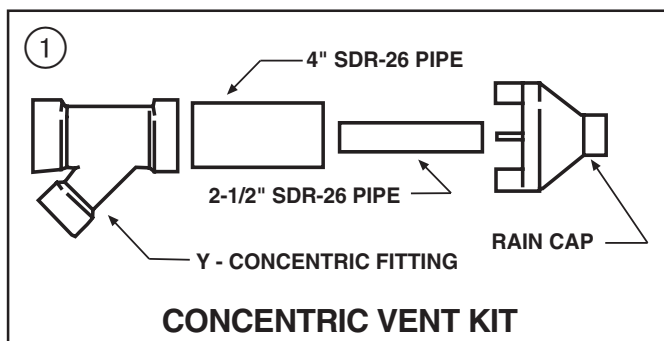
*Codes and local utility requirements governing the installation of gas fired equipment, wiring, plumbing, and flue connections must be adhered to. In the absence of local codes, the installation must conform with the Nation Fuel Gas Code ANSI Z223.1 "latest edition", or CAN/CGA B149 Installation Codes. The latest code may be obtained from the International Approval Services, 8501 E. Pleasant Valley Rd., Cleveland, Ohio 44131.*

#### NOTE:

*Read the Installer's Guide before starting the installation. Refer to the Furnace Installer's Guide for equivalent vent lengths. The BAYVENT100A is 5 equivalent feet.*

### ⚠ WARNING

INSTALLING AND SERVICING HEATING EQUIPMENT CAN BE HAZARDOUS DUE TO GAS AND ELECTRICAL COMPONENTS. ONLY TRAINED PERSONNEL SHOULD INSTALL OR SERVICE HEATING EQUIPMENT. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PRODUCT DAMAGE, PERSONAL INJURY AND/OR DEATH.



### INTRODUCTION

This Installer's Guide covers installation of the concentric vent kit on all gas fired direct vent condensing furnaces.

**DO NOT APPLY TO A NON-CONDENSING FURNACE.**

#### NOTE:

*If these instructions differ from those packaged with the furnace, follow these instructions.*

### DESCRIPTION AND USAGE

Kit Contents: 1 — 3" Rain cap  
1 — 4" Diameter SDR-26 Pipe, 24" Long  
1 — 2-1/2" Diameter SDR-26 Pipe, 37 1/8"  
1 — 3" Y concentric Fitting

#### Only One Vent Kit per each Furnace Allowed.

Vent kit is for 2, 2-1/2 or 3 in. diameter pipe systems (See Figures 3, 4, 5, and 6 for the different applications.) Both the combustion air and vent pipes must attach to the vent kit. The vent kit must terminate outside of the structure and should be installed vertically as shown in Figures 3 and 4, or horizontal as shown in Figures 5 and 6.

#### NOTE:

*The roof vent location is preferred since it is less susceptible to damage, has reduced chances to intake contaminants, and vent vapors are less visible.*

### ⚠ WARNING

**THIS VENT KIT IS ONLY TO BE USED FOR VENTING CATEGORY IV FURNACES. DO NOT USE TO VENT CATEGORY I, II OR III VENT FURNACES. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN FIRE, PERSONAL INJURY OR DEATH.**

### ⚠ WARNING

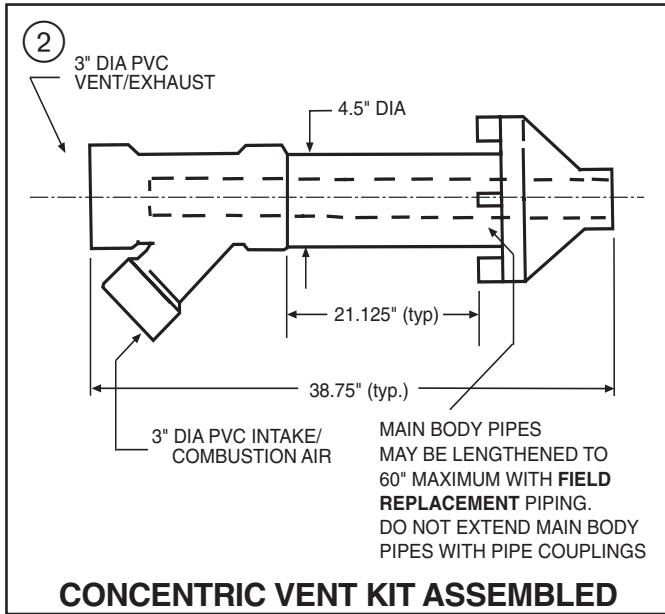
**DISCONNECT POWER SUPPLY BEFORE BEGINNING INSTALLATION TO PREVENT PERSONAL INJURY OR DEATH FROM ELECTRICAL SHOCK AND EQUIPMENT DAMAGE.**

Field supplied pipe and fittings are required to complete the installation.

The combustion air and vent pipe and fittings must conform to American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) standards D1785 (schedule-40 PVC), D2665 (PVC-DWV), D2441 (SDR-21 and SDR-26 PVC), D2661 (ABS-DWV), or F628 (schedule-40 ABS). Pipe cement and primer must conform to ASTM standards D2564 (PVC) or D2235 (ABS).

In Canada, construct all combustion air and vent pipes for this unit of CSA or ULC certified schedule-40 PVC, PVC-DWV, or ABS-DWV pipe and pipe cement. SDR pipe is not approved in Canada.

# Installer's Guide



## INSTALLATION – ROOF TERMINATION (See Figure 3)

1. Determine best location for termination kit.
2. Cut one hole (5 in. diameter) for vent kit.

**NOTE:**  
Ensure termination height is above the roof surface or anticipated snow level (1 ft. in USA or 1-1/2 ft. in Canada) as shown in Figure 4.

**NOTE:**  
If assembly is too short to meet the height requirement, the two pipes supplied in the kit may be replaced by using same diameter, field supplied SDR-26 PVC (ASTM D2241) pipe. Do not extend the 4" pipe (24" as shipped) to more than 60 in. (See Figure 2).

## CAUTION

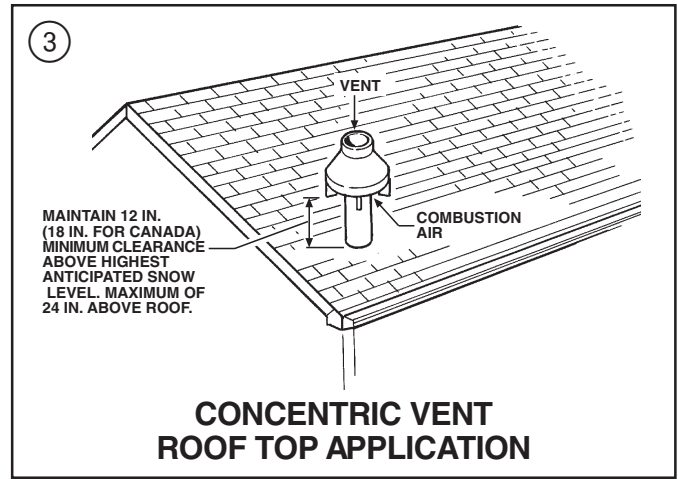
**DO NOT USE FIELD SUPPLIED COUPLINGS TO EXTEND MAIN BODY PIPES (4" AND 2-1/2" PIPES). AIRFLOW RESTRICTION WILL OCCUR AND THE FURNACE PRESSURE SWITCH MAY CAUSE INTERMITTENT OPERATION.**

3. Partially assemble the vent kit. Clean the pipe ends and adjoining sockets with PVC primer (ASTM F-656) and cement using PVC cement (ASTM D-256).
  - a. Cement the Y concentric fitting to larger diameter kit pipe. (See Figure 1)
  - b. Cement the rain cap to smaller diameter kit pipe. (See Figure 1)

**NOTE:**  
Instead of cementing the smaller pipe to the rain cap, RTV silicon sealant may be used to permit future field disassembly for cleaning.

4. Install Y fitting and pipe assembly from the inside through structure's hole. Install field supplied roof boot/ flashing.

**NOTE:**  
Do not allow insulation or other materials to accumulate inside pipe assembly when installing through hole.



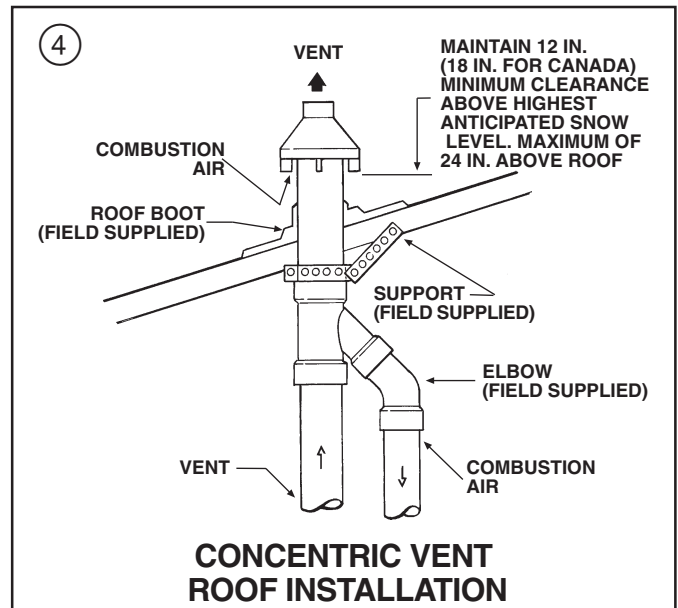
5. Secure assembly to roof structure as shown in Figure 4 using field supplied metal strapping or equivalent support material.
6. Install the rain cap and the small diameter pipe assembly in the "Y" fitting and pipe assembly. Ensure that the small diameter pipe is cemented and bottomed into the "Y" fitting.

**NOTE:**  
A field supplied stainless steel screw may be used to secure the rain cap to the pipe instead of cementing when field disassembly is desired for cleaning.

## WARNING

**WHEN USING THE ALTERNATE SCREW ASSEMBLY METHOD, DRILL A CLEARANCE HOLE IN THE RAIN CAP AND A PILOT HOLE IN THE VENT PIPE FOR THE SCREW SIZE BEING USED. FAILURE TO DRILL ADEQUATE HOLES MAY CAUSE CRACKING OF THE PVC COMPONENTS, ALLOWING FLUE GASES TO BE RECIRCULATED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

7. Cement the furnace combustion air and vent pipes to the concentric vent termination assembly. See Figure 4 for proper pipe attachment.



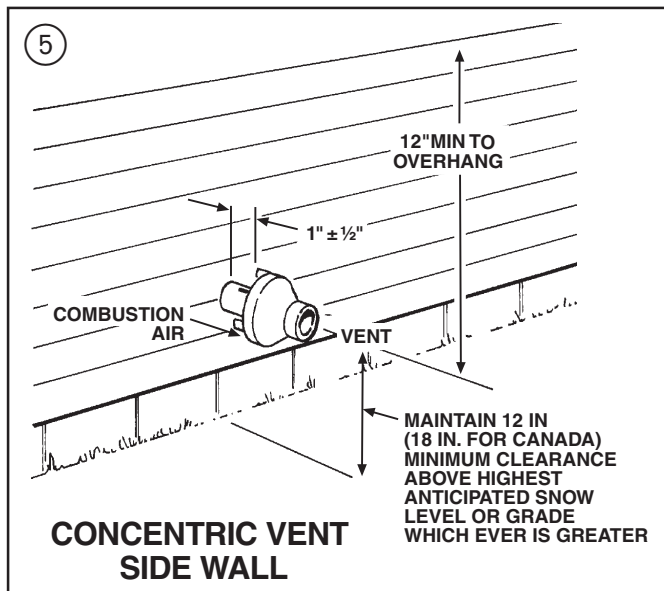
- CHECKOUT: Operate the furnace to make sure ALL pipe joints are fastened and sealed to prevent the escape of combustion products into the building.

**NOTE:**

Two or more installations require a minimum separation distance of approximately one inch between vent kits.

## ⚠ WARNING

DO NOT OPERATE THE FURNACE WITHOUT THE RAIN CAP IN PLACE AS RECIRCULATION OF COMBUSTION PRODUCTS MAY OCCUR. WATER MAY ALSO COLLECT INSIDE THE LARGER COMBUSTION AIR PIPE AND FLOW TO THE BURNER ENCLOSURE. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PRODUCT DAMAGE OR IMPROPER OPERATION, PERSONAL INJURY OR DEATH.



### INSTALLATION – SIDE WALL VENT (See Figure 5)

- Determine the best location for the vent kit.

**NOTE:**

Consider the following when determining the vent kit location:

- Vent kit positioned where the vent vapors will not damage planting/shrubs or air conditioning equipment.
- Vent kit positioned so it will not be affected by wind eddy that may allow recirculation of combustion products, or airborne leaves, or light snow.
- Vent kit positioned where it will not get damaged or be subjected to foreign objects, such as stones, balls, etc.
- Vent kit positioned where the vent vapors will not be objectionable.

- Cut 1 hole (5 in. diameter) for vent kit.
- Partially assemble the vent kit. Clean the pipe ends and adjoining sockets with PVC primer (ASTM F-656) and cement using PVC cement (ASTM D-256).
  - Cement the Y concentric fitting to larger diameter kit pipe. (See Figure 1)
  - Cement the rain cap to smaller diameter kit pipe. (See Figure 1)

**NOTE:**

Instead of cementing the smaller pipe to the rain cap, RTV silicon sealant may be used to permit future field disassembly for cleaning.

- Install Y concentric fitting and pipe assembly through structure's hole.

**NOTE:**

Do not allow insulation or other materials to accumulate inside pipe assembly when installing through hole.

## ⚠ CAUTION

DO NOT USE FIELD SUPPLIED COUPLINGS TO EXTEND MAIN BODY PIPES (4" AND 2-1/2" PIPES). AIRFLOW RESTRICTION WILL OCCUR AND THE FURNACE PRESSURE SWITCH MAY CAUSE INTERMITTENT OPERATION.

- Install rain cap and small diameter pipe assembly in Y concentric fitting and large pipe assembly. Ensure small diameter pipe is bottomed and cemented in Y concentric fitting.

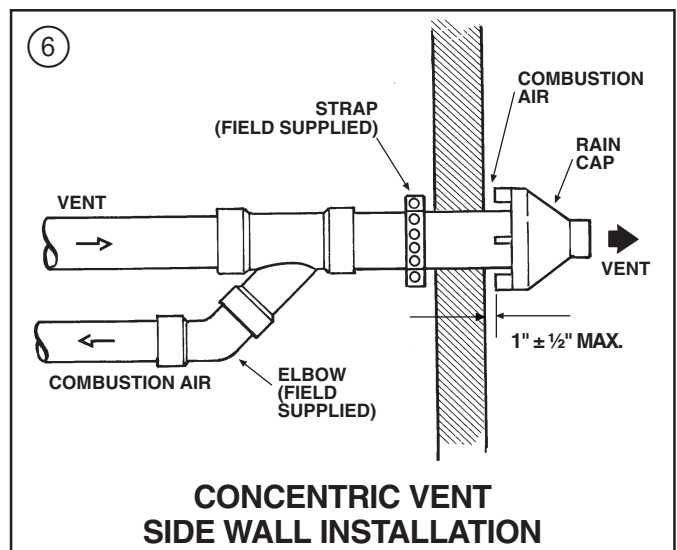
## ⚠ WARNING

WHEN USING THE ALTERNATE SCREW ASSEMBLY METHOD, DRILL A CLEARANCE HOLE IN THE RAIN CAP AND A PILOT HOLE IN THE VENT PIPE FOR THE SCREW SIZE BEING USED. FAILURE TO DRILL ADEQUATE HOLES MAY CAUSE CRACKING OF THE PVC COMPONENTS, ALLOWING FLUE GASES TO BE RECIRCULATED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

- Secure assembly to structure as shown in Figure 6 using field supplied metal strapping or equivalent support material.

**NOTE:**

Ensure termination location clearance dimensions as shown in Figure 5. Do not locate the vent cap directly to the wall surface. A distance of 1" ± 1/2" is required to prevent water accumulating between the vent fins.



# Installer's Guide

**NOTE:**

*If assembly needs to be extended to allow side wall thickness requirement, the two pipes supplied in the kit may be replaced by using same diameter, field supplied SDR-26 PVC (D2241) pipe. Do not extend the 4" pipe (24" as shipped) to more than 60 in. (See Figure 2). The 4" pipe may be shortened to 14" minimum.*

**NOTE:**

*A field supplied stainless steel screw may be used to secure the rain cap to the pipe instead of cementing when field disassembly is desired for cleaning.*

7. Cement furnace combustion air and vent pipes to concentric vent assembly. See Figure 6 for proper pipe attachment.

8. CHECKOUT: Operate the furnace to make sure ALL pipe joints have fastened and sealed to prevent the escape of combustion products into the building.

**NOTE:**

*Two or more installations require a minimum separation distance of approximately one inch between vent kits.*

**NOTE:**

*To prevent the possibility of condensate freeze-up, do not install vent kits one above the other.*



**American Standard Inc.**  
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Tyler, TX 75707

For more information contact  
your local dealer (distributor)

Literature Order Number	VENT-IN-1A
File Number	SV-UN-ACC-VENT-IN-1A 8/02
Supersedes	VENT-IN-1
Stocking Location	PI Louisville & Webb/Mason-Houston P.I.

Since the manufacturer has a policy of continuous product and product data improvement, it reserves the right to change design and specifications without notice.