**HAZARD INTENSITY LEVELS**

1. **DANGER: Failure to comply will result in severe personal injury or death and/or property damage.**
2. **WARNING: Failure to comply could result in severe personal injury or death and/or property damage.**
3. **CAUTION: Failure to comply could result in minor personal injury and/or property damage.**

REZNOR Thomas&Betts

# OPTION CA POWER VENTER

## Models 301 & 401

**INSTALLATION/OPERATION/PARTS FORM RGM 721 (Version A)**
**Obsoletes Form RGM 721-6**

APPLIES TO: **Models X and XE and Obsolete Models CX, CXE, XL, and XLB**

**WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.**

## Description/Application

The Option CA power venter is a motorized vent exhauster designed to permit the installation of a gravity-vented heater in an area of negative pressure up to 0.15" w.c. or where horizontal venting is required. The venter assembly in this instruction form is designed for and may **only** be installed on the Reznor equipment listed below.

| Use Venter with Models | Description |
|---|---|
| **X/DX/HX*** | Duct Furnace |
| **CX/HCX*** | |
| **XE/HXE*** | Packaged Duct Furnace & Blower |
| **CXE/HCXE*** | |
| **XL/CXL** | Fan -Type Unit Heater |
| **XLB/CXLB**** | Blower-Type Unit Heater |

*Models with prefix "H" are not listed separately throughout this form. Information for corresponding "standard" model applies to the "H" model.
** Power venter cannot be installed on XLB/CXLB Sizes 30-105 when equipped with an optional blower cabinet.

**WARNING: Reznor® power venter and venter flue adapter are designed for USE WITH DESIGNATED REZNOR® PRODUCTS ONLY.**

- **Do not install these power venters on any other Reznor equipment including Reznor® Model F and Model B gravity-vented unit heaters. Use only the power venting kits that are especially designed for F and B Models.**
- **Do not install these venters on equipment not manufactured with the Reznor® brand.**

**See Hazard Levels, top of the page.**

## Components

For currently manufactured equipment (Models X[1] and XE[2]) and the previously manufactured high efficiency version of these models (Models CX and CXE[2]), the venter sub-assembly and venter flue adapter are packaged by size of heater and voltage and may be selected under a package part number. For obsolete unit heaters (Models XL, XLB, CXL, and CXLB), some of the packages apply but other sizes require selection of individual components. Before continuing with the installation, verify that the parts at the job site are correct for the heater being serviced. (Required field-supplied components are listed on page 3.)

| **Packages Apply to Models X/DX[1]/CX[2]/XE/CXE[2]** | | **75** | **100** | **125** | **150-175** | **200-225** | **250-300[1]** | **350[2]-400** |
|---|---|---|---|---|---|---|---|---|
| **Package P/N's by Option (CA) Designation and Voltage for Models X/DX/CX/XE/CXE** | **CA1-115V** | **136959** | **136960** | **136961** | **136962** | **136963** | **136964** | **136965** |
| | **CA2-208V** | **136966** | **136967** | **136968** | **136969** | **136970** | **136971** | **136972** |
| | **CA3-230V** | **136973** | **136974** | **136975** | **136976** | **136977** | **136978** | **136979** |
| | **CA4-460V** | **136980** | **136981** | **136982** | **136983** | **136984** | **136985** | **136986** |
| ***Components*** | ***In Option(s)*** | ***Component P/N's*** | | | | | | |
| Venter Sub Assembly | CA1 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29994 |
| | CA2 | 30229 | 30229 | 30229 | 30229 | 30229 | 30229 | 30233 |
| | CA3 | 30231 | 30231 | 30231 | 30231 | 30231 | 30231 | 30235 |
| | CA4 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29994 |
| Transformer .25KVA, 460 to 115 | CA4 | 26620 | 26620 | 26620 | 26620 | 26620 | 26620 | 26620 |
| Venter Flue Adapter | CA1,2,3,4 | 14516 | 6536 | 6539 | 6542 | 12730 | 12731 | 12732 [2] |

[1]For Model DX300, select package for Model X400. [2]Package P/N's listed **do not** apply to Model CX350 or Model CXE350. These models require the same components as listed for a Size 350 ***except*** the venter flue adapter is different. Venter Flue Adapter required is **P/N 46163**.

| **Packages that Apply to Models** → | | **(C) XL (B)** | | | **XL,XLB 125/140; CXL,CXLB 140/170** | **XL,XLB 150/170/200; CXL,CXLB 150/200** | **(C) XL (B)** | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **30/45/60** | **75** | **105** | | | **225/250** | **300** | **350/400** |
| **Package P/N's by Option (CA) Designation and Voltage for obsolete Models XL/XLB/CXL/CXLB** | **CA1-115V** | **None** | **None** | **None** | **136961** | **136962** | **136963** | **None** | **None** |
| | **CA2-208V** | **None** | **None** | **None** | **136968** | **136969** | **136970** | **None** | **None** |
| | **CA3-230V** | **None** | **None** | **None** | **136975** | **136976** | **136977** | **None** | **None** |
| | **CA4-460V** | **None** | **None** | **None** | **136982** | **136983** | **136984** | **None** | **None** |
| ***Components (for sizes that do not have packages available, the components are ordered separately by size and voltage)*** | | | | | | | | | |
| Venter Sub Assembly | CA1 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29994 |
| | CA2 | 30229 | 30229 | 30229 | 30229 | 30229 | 30229 | 30229 | 30233 |
| | CA3 | 30231 | 30231 | 30231 | 30231 | 30231 | 30231 | 30231 | 30235 |
| | CA4 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29992 | 29994 |
| Transformer .25KVA, 460 to 115 | CA4 | 26620 | 26620 | 26620 | 26620 | 26620 | 26620 | 26620 | 26620 |
| Venter Flue Adapter | CA1,2,3,4 | 6838 | 6534 | 20901 | 6539 | 6542 | 12730 | 24017 | 46163 |

# Venter Specifications

## Electrical

| Option No. | for Heater Sizes | Venter Sub-Assembly | aka Venter Model | Voltage | | Amps | | Ship Wt (lbs) |
|---|---|---|---|---|---|---|---|---|
| | | | | Control | *Motor | FLA | LR | |
| CA1 | 30-300 | 29992 | LV301 | 24 | 115 | 1.4 | 1.94 | 11 |
| CA4** | 350-400 | 29994 | LV401 | | | | | 12 |
| CA2 | 30-300 | 30229 | LV301B | 24 | 208 | 0.72 | 0.95 | 11 |
| | 350-400 | 30233 | LV401B | | | | | 12 |
| CA3 | 30-300 | 30231 | LV301H | 24 | 230 | 0.7 | 0.94 | 11 |
| | 350-400 | 30235 | LV401H | | | | | 12 |

**NOTES:**
*Two pole motor, nominal 3000 RPM. Maximum permissible voltage for 115 volt venter motor is 127 volts; 208 volt is 228 volts; and 230 volt is 250 volts.
** Option CA4 includes a transformer.

## Blower System

Venters have a centrifugal blower with forward curved blades. Blowers are statically and dynamically balanced.

| | CFM (70°F) | | | | | |
|---|---|---|---|---|---|---|
| Static Pressure | 0.00 | 0.25 | 0.50 | 0.75 | 1.00 | 1.25 |
| Sizes 30-300 | 220 | 205 | 190 | 160 | 75 | -- |
| Sizes 350-400 | 265 | 255 | 245 | 240 | 220 | 185 |

## Control System

A spring-loaded air flow switch starts and stops the burner. Low voltage control includes a built-in relay. Thermal switch provides post-purge.

## Housing

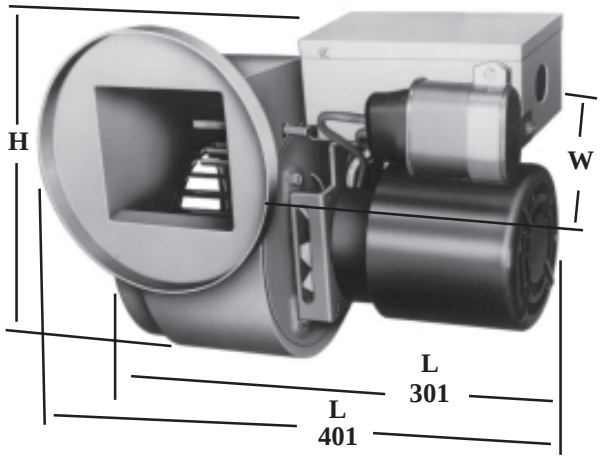
Blower and motor are enclosed in corrosion resistant steel housing, finished in baked enamel.

## Adapters

The adapter designed and tested for the particular model and size of Reznor heater must be used to connect the venter to the heater flue. The venter controls the volume of dilution air flow through the draft-hood and vent pipe, providing for safe and efficient operation. See adapter dimensions in Figure 1 below.

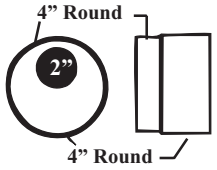
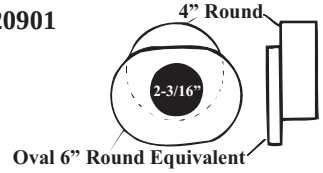
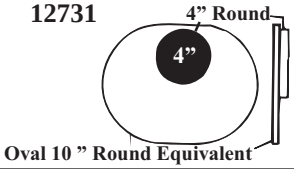
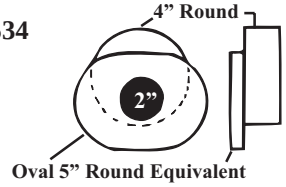
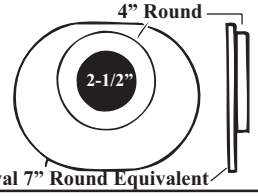
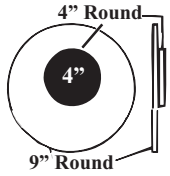
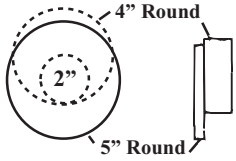
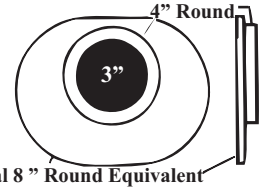
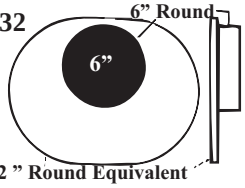
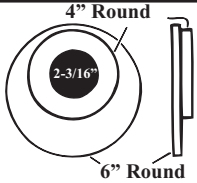
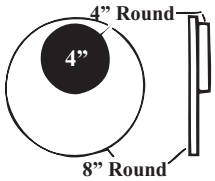
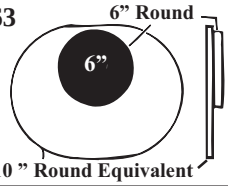
## Venter Sub-Assembly Dimensions (inches)

**Figure 2 - Venter Sub-Assembly**




| Venter Sub-Assembly | | Overall | | | Connections (I.D.) | |
|---|---|---|---|---|---|---|
| For Sizes | aka Model | H High | W Wide | L Long | Heater Adapter | Vent Pipe |
| 30-300 | 301 | 7-1/2 | 10 | 7-1/16 | 4-1/16 | 4-1/16 |
| 350-400 | 401 | 9-3/8 | 10-5/8 | 8-1/2 | 6 | 6 |

**Figure 1 - Adapter Application, P/N's, and Dimensions**

| Model | P/N | Dimensions |
|---|---|---|
| XL, XLB, CXL, CXLB 30, 45, 60 | 6838 |   |
| XL, XLB, CXL, CXLB 105 | 20901 |   |
| X, XE, CX, CXE 250, 300 | 12731 |   |
| XL, XLB, CXL, CXLB 75 | 6534 |   |
| X, CX, XE, CXE 125; XL, XLB 125, 140; CXL, CXLB 140, 170 | 6539 |   |
| XL, XLB, CXL, CXLB 300 | 24017 |   |
| X, CX, XE, CXE 75 | 14516 |   |
| X, XE 150, 175; CX, CXE 175; XL, XLB 150, 170, 200; CXL, CXLB 150, 200 | 6542 |   |
| X, XE 350, 400; CX, CXE 400; DX 300 | 12732 |   |
| X, CX, XE, CXE 100 | 6536 |   |
| X, XE 200, 225; CX, CXE 225; XL, XLB, CXL, CXLB 225, 250 | 12730 |   |
| XL, XLB, CXL, CXLB 350, 400; CX, CXE 350 | 46163 |   |

**DANGER: This power venter is to be installed by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury, and/or property damage. The qualified agency performing this work assumes responsibility for this installation.**

# Venter Operation

Before beginning the actual installation, it will be helpful to understand the fundamental operation and sequencing of the power venter.

The venter's relay coil is wired in series with the thermostat. When the thermostat calls for heat, the thermostat contacts close the circuit which, after a delay of approximately 15 - 60 seconds, starts the venter. When the venter starts, air from the venter blower closes the airflow (sail) switch that is built into the venter. The closing of the airflow switch completes the electric circuit to the burner controls, opening the gas valve. When the thermostat is satisfied, the thermostat closes the gas valve. A thermal switch permits post-purge venter blower operation to prevent unnecessary lockouts by the temperature-sensitive blocked vent system on the heater. When the venter blower stops, the airflow switch resets to the open position.

**CAUTION: Maximum ambient temperature is 120ºF. See Hazard Levels, page 1.**

# Installation Instructions

Verify that the venter sub-assembly and the venter flue adapter are compatible with the heater being serviced. Check Model, Size, and Voltage. The following parts are required.

**Reznor Supplied**

- Venter Flue Adapter
- Venter Sub-Assembly

**Field Supplied**

- ☐ For heater with a Horizontal Flue - Six #10 sheetmetal screws
- ☐ For heater with a Vertical Flue - Nine #10 sheetmetal screws and a vent pipe elbow (4" or 6" depending on heater model and size)
- ☐ All Installations - Wiring and accessories including 18 gauge wire for control (24V) wiring, 14 gauge wire for line voltage, flexible conduit for both control and line voltage wires, wire connectors, and conduit connectors.

**1. Pre-Installation Check of the Built-In Venter Flow Switch** -- Prior to installing the venter sub-assembly, check the built-in airflow switch for proper operation.

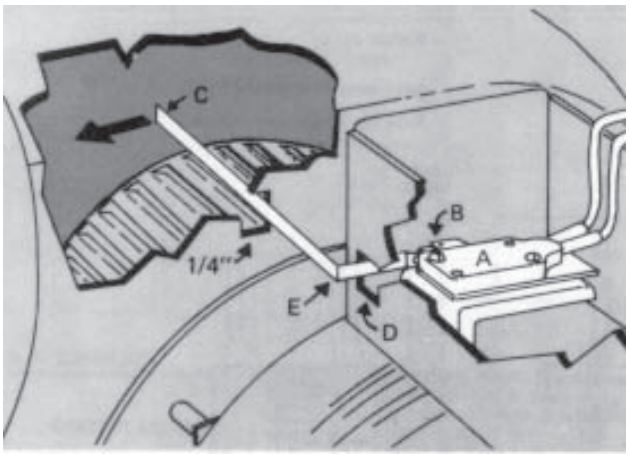
**Instructions:**

Refer to Figure 3. Item (A) is a small, spring loaded switch normally in an off position until the actuating button under the hinge (B) is depressed to close the circuit. It returns to the off position when the button is released. A flat blade (C) -- hinged (B) at the back of the button -- crosses the button and is extended into the airstream of the venter. The venter motor is energized through the thermostat and when the fan air reaches velocity, it pushes the airflow switch blade against the button, closing the circuit to the electric gas valve.

The flow switch blade that extends through an opening (D) in the connection box (where it is located), is bent to a 90º angle (E) and extends in to the fan housing through a 1/4" hole. The angle of the 90º bend must be adjusted by bending backward or forward so that the switch can fully open or close.

A definite "CLICK" is heard both when the switch opens and closes. In the open position (when the switch button is depressed), a full 1/32" clearance should be provided after the "click" is heard. If that is not the case, bend the blade back at the angle until proper clearance is provided.

**Figure 3 - Built-In Air Flow Switch**



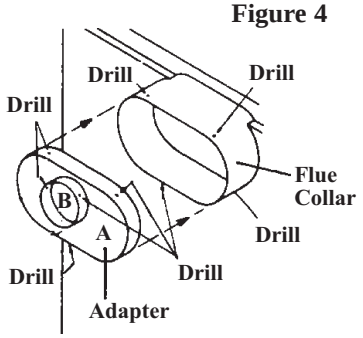

When the blade is released, the off "click" must occur before the blade is fully returned to rest position against the side of the hole in the fan housing.

This check must be done prior to installing the venter to verify that the airflow switch will function properly. After installing the heater, recheck the switch to be sure that the clearance have not been affected.

**2.** If the heater is installed, **turn off the gas and the electric.**

**3. Install the Venter Flue Adapter (Refer to Figure 4)** -- The adapter has a "large" either oblong or round collar ("A") that attaches to the flue collar on the heater and a smaller collar ("B") for attaching directly to the venter (horizontal flue) or to a vent pipe (vertical flue).

**Figure 4**




Position the adapter with the smaller round (4" or 6" collar) toward the top (horizontal flue) or front (vertical flue) of the heater and fit the larger collar over the heater flue collar.

To attach the adapter, hold it in place and select the location for drilling a 1/8" diameter hole (No. 30 drill) through the connecting overlap of the heater flue and the adapter collar.

- ☐ **For an oblong horizontal flue**, drill the first hole on either side of the top.
- ☐ **For a round horizontal flue,** drill the first hole in the top portion of the circle.
- ☐ **For an oblong vertical flue**, drill the first hole on either "end" of the side toward the front of the heater.
- ☐ **For a round vertical flue**, drill the first hole on the portion of the circle toward the front of the heater.

# Installation Instructions (cont'd)

**3. Install the Venter Flue Adapter (cont'd)**

Insert a #10 sheetmetal screw. Drill two more holes -- for an **oblong flue**, drill a hole in the opposite edge of the same side as the first hole, and one in the middle of the opposite side; and for a **round flue**, space the three holes approximately equal distances apart. Attach with sheetmetal screws.

**4. Install the Venter Sub-Assembly** -- The venter sub-assembly is assembled and wired at the factory. It includes the blower, motor, capacitor, airflow switch, thermal switch, and junction box. Select and follow the appropriate instructions.

**Heater with a Horizontal Flue (Figure 5)** -- Position the venter sub-assembly on the flue adapter. The venter discharge outlet (vent connection) must be pointing in a direction from horizontal to vertical. **Do not position the venter with the discharge outlet (vent connection) in a direction below horizontal.**

Holding the venter sub-assembly in position, drill a hole through the connecting overlap in the top portion of the venter sub-assembly and the venter adapter. Insert a #10 sheetmetal screw. Drill two more holes approximately equal distances apart. Attach with sheetmetal screws.

**Heater with a Vertical (top ) Flue (Figure 6)** -- Using sheetmetal screws, attach a vent pipe elbow as shown in Figure 6. Position the venter sub-assembly on the vent pipe elbow. The venter discharge outlet (vent connection) must be pointing in a direction from horizontal to vertical. **Do not position the venter with the discharge outlet (vent connection) in a direction below horizontal.**

Holding the venter sub-assembly in position, drill a hole through the connecting overlap in the top portion of the venter sub-assembly and the vent pipe elbow. Insert a #10 sheetmetal screw. Drill two more holes approximately equal distances apart. Attach with sheetmetal screws.

**Figure 5 - Heater with a Horizontal Flue**

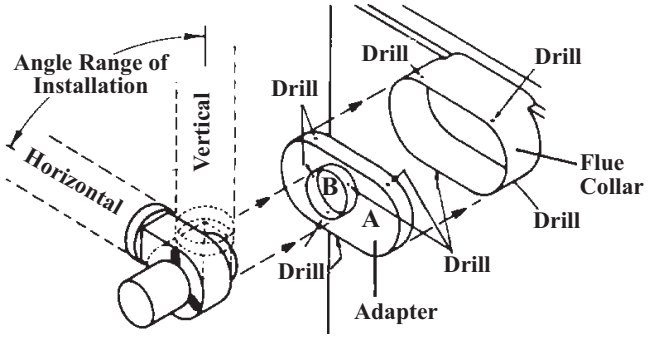
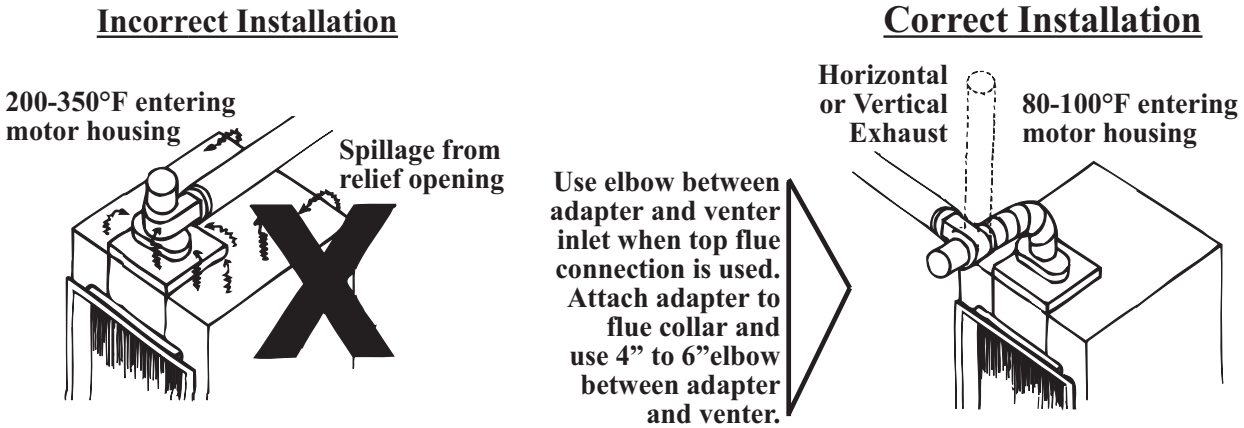



**Figure 6 - Install an elbow before attaching the venter sub-assembly on a heater with a vertical (top) flue.**




**5. Electrical Wiring** -- Follow the wiring diagram in Figure 7 for wiring the venter to the heater. Use flexible conduit for both line voltage and control voltage wiring.

All wiring and connections, including electrical grounding, MUST be in accordance with the National Electric Code ANSI/NFPA No. 70 (latest edition) or in Canada, with the Canadian Electrical Code, Part I-C.S.A. Standard C22.1. In addition, the installation must comply with local ordinances and applicable gas company requirements.

NOTE: Model Series X, CX, XE, and CXE furnaces manufactured beginning 4/91 are equipped with a blocked vent switch. Model Series X, CX, XE and CXE units manufactured prior to 4/91 and Model XL, CXL, CXLB, and CXLB Series unit heaters are not equipped with a blocked vent switch.

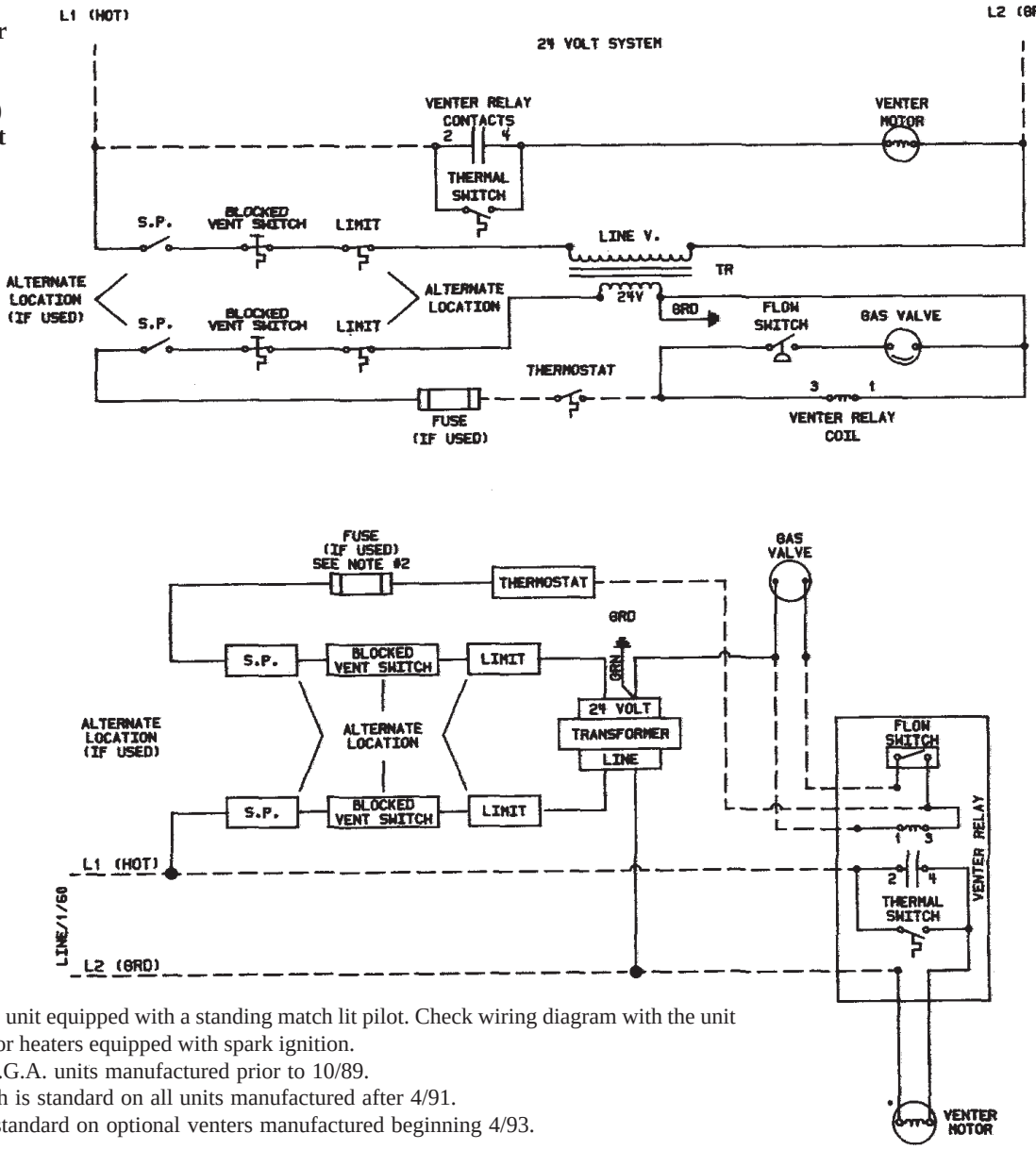
**DANGER: This Reznor® venter must be installed and wired in accordance with these installation instructions.**

**The venter flow switch MUST be wired in series with the thermostat to interrupt the main gas valve circuit. Flow switch operation must be checked before and after venter installation to verify proper operation.**

**See Hazard Levels, page 1.**

**DANGER: Reznor venter must be installed and wired in accordance with these instructions. Flow switch MUST be wired in series with the thermostat to interrupt main gas valve circuit. Operation of the flow switch must be checked before and after installation of the venter. See Hazard Levels, page 1.**

**Figure 7 - Typical Wiring Diagram for Unit with Optional Power Venter (24 volt control system) and Match-Lit Pilot**




NOTES:

1) Typical wiring for a unit equipped with a standing match lit pilot. Check wiring diagram with the unit or consult factory for heaters equipped with spark ignition.
2) Fuse required on C.G.A. units manufactured prior to 10/89.
3) Blocked vent switch is standard on all units manufactured after 4/91.
4) Thermal switch is standard on optional venters manufactured beginning 4/93.

**6. Re-Check Venter Air Flow Switch** -- Follow the instructions in Step 1 to verify that the operation of the switch has not been adversely affected during installation.

**7. Install Vent Pipe** -- Venting must be in accordance with the National Fuel Gas Code Z223.1 or CAN/CGA B149.1 and B149.2, Installation Code for Gas Burning Appliances and Equipment, and all local codes. Local requirements supersede national requirements.

With the power venter installed, these heaters are designed to operate safely and efficiently with either a horizontal or vertical vent. (Horizontal vent run is recommended for maximum fuel savings.) Use either vent pipe approved for a Category III heater or appropriately sealed single-wall pipe. Or, if at least half of the equivalent length of the vent system is vertical, vent pipe approved for a Category I heater may be used. A vent cap of a type approved for use with this heater is required. Comply with the specific requirements and instructions in the following paragraphs.

If this heater is replacing an existing heater, be sure that the vent is sized properly for the heater being installed. A properly sized vent system is required for safe operation of this heater. An improperly sized vent system can cause unsafe conditions and/or create condensation.

Venting requirements change with the addition of the power venter. Acceptable vent size and lengths are shown below.

**a.** **Vent Pipe** - If installed with a horizontal vent run, use either vent pipe approved for a Category III heater or appropriately sealed 26-gauge galvanized steel or equivalent single-wall pipe. If at least half of the equivalent length of the vent system is vertical, vent pipe approved for a Category I heater may be used. Single-wall pipe or double-wall (Type B) vent pipe are suitable for use with a Category I heater.

Use only one of the flue pipe diameter(s) listed in the Maximum Permissible Vent Length Table below for the heater size being installed.

**b.** **Vent Length** - Minimum vent length is 5 feet.

| Vent Pipe Diameter | Maximum Length* (ft) by Heater Size | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 30-150 | 175 | 200 | 225 | 250 | 300 | 350 | 400 |
| 4" | 100 | 75 | 50 | 35 | 30 | 15 | -- | -- |
| 6" | -- | -- | -- | -- | 100** | 100** | 100 | 92 |

*Reduce the vent pipe lengths as follows for each item: 45° Elbow - 7'; 90° Elbow - 15'; Reznor® Vent Cap - 10'; Breidert Vent Cap - 10'.

** If the venter outlet is 4", connect a taper-type "enlarger" to the venter outlet when installing 6" vent pipe.

**7. Install Vent Pipe (cont'd)**

**c. Vent System Joints** - Vent system joints depend on the installation and the type of pipe being used.

**If installed as a Category III heater** (required if more than half of the equivalent length of the vent system is horizontal) **and single-wall vent pipe is being used**, use at least two non-corrosive screws per vent pipe joint and **seal all joints** to prevent leakage of flue gases into the building. For sealing joints, the use of Aluminum or TEFLON® (trademark of DuPont Corporation) tape suitable for 550°F is recommended (required in California). Vent tape of this type is available from the heater manufacturer as P/N 98266.

**If installed as a Category III heater** (required if more than half of the equivalent length of the vent system is horizontal) **and vent pipe specifically approved for Category III vent systems is being used**, follow the pipe manufacturer's instructions for proper sealing.

**If installed with a Category I vent system (allowed only if at least half of the equivalent length of the vent system is vertical),** use at least two non-corrosive screws per vent pipe joint on single-wall pipe or follow the pipe manufacturer's instructions for joining double-wall pipe.

**d. Vent System Support** - Lateral runs should be supported every six feet using a non-combustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

**e. Condensation** - Any length of single-wall vent pipe exposed to cold air or run through an unheated area or an area with an ambient temperature of 45°F or less must be insulated along its entire length with a minimum of 1/2" foil-faced fiberglass, 1-1/2# density insulation.

**f. Vent Terminal (Pipe and Vent Cap)** - The vent cap must be the same size as the vent pipe (vent pipe is either 4" or 6" diameter). Any commecially available cap listed for use as a vent cap for fuel burning appliances is acceptable. For optimum stability under wind conditions, use a Type L Breidert *Air-x-hauster*® or equivalent vent cap. (Type L *Air-x-hauster*® is a trademark of The G. C. Breidert Company.)

See the illustrations in Figures 8A and 8B for requirements of vertical and horizontal vent termination. The vent terminal pipe may be either single-wall or double-wall (Type B). (Check local codes for double-wall terminal requirement.) If double-wall pipe is used in the vent terminal with a single-wall vent run, follow the instructions below to attach the vent cap and to connect the double-wall pipe to the single-wall vent pipe run.

**Instructions to attach VENT CAP to DOUBLE WALL (Type B) VENT TERMINAL PIPE**

Look for the "flow" arrow on the vent pipe. Attach the vent cap to the "exhaust" end of the double wall pipe.

1) Slide the vent cap inside the pipe.
2) Drill a hole through the pipe and the vent cap. (Hole should be slightly smaller than the sheet metal screw being used.) Using a 3/4" long sheet metal screw, attach the cap to the pipe.
3) Repeat Step 2) drilling and inserting two additional screws evenly spaced (120° apart) around the pipe.

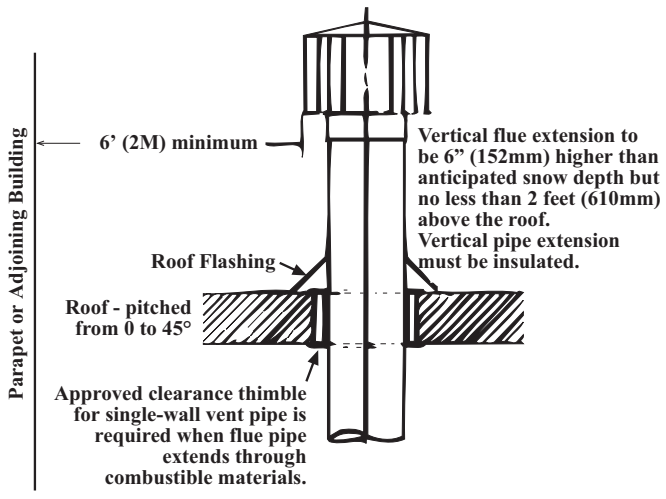
**Instructions to connect a SINGLE WALL VENT RUN to a DOUBLE WALL (Type B) VENT TERMINAL PIPE:**

1) Slide the single wall pipe inside the inner wall of the double-wall terminal pipe.
2) Drill a hole through both walls of the double wall pipe and the single wall pipe. (Hole should be slightly smaller than the sheet metal screws being used.) Using a 3/4" long sheet metal screw, attach the two pieces of pipe. Do not overtighten.
3) Repeat Step 2) drilling and inserting two additional screws evenly spaced (120° apart) around the pipe.
4) To seal the annular opening (the gap between the single and double wall pipe), run a large bead of silicone sealant in the opening. The bead of sealant must be large enough to seal the opening, but it is not necessary to fill the full volume of the annular area.

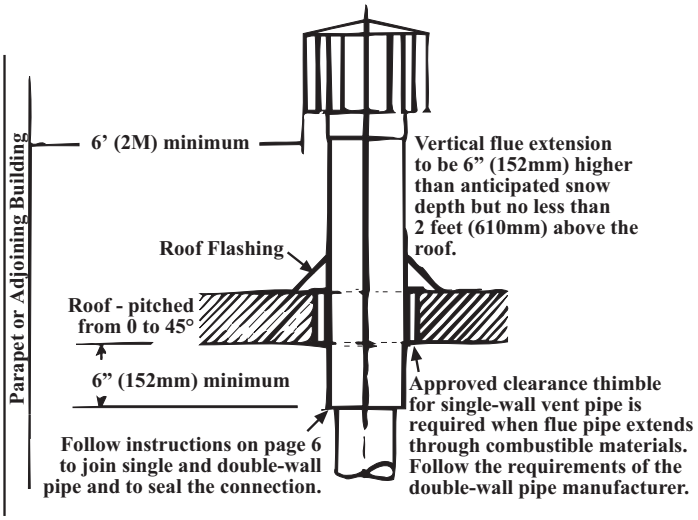
**WARNING: Units installed in multiples require *individual* vent pipe runs and vent caps. Manifolding of vent runs is not permitted**

**Figure 8A - Vertical Vent Terminal**

**Single-Wall Vent Run and Single-Wall Terminal End**



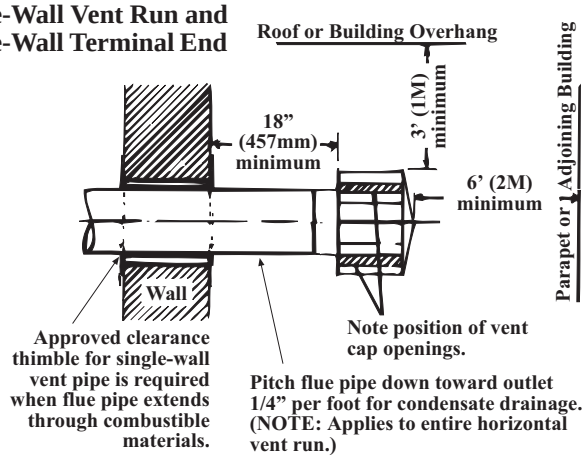

**Single-Wall Vent Run and Double-Wall Terminal End**



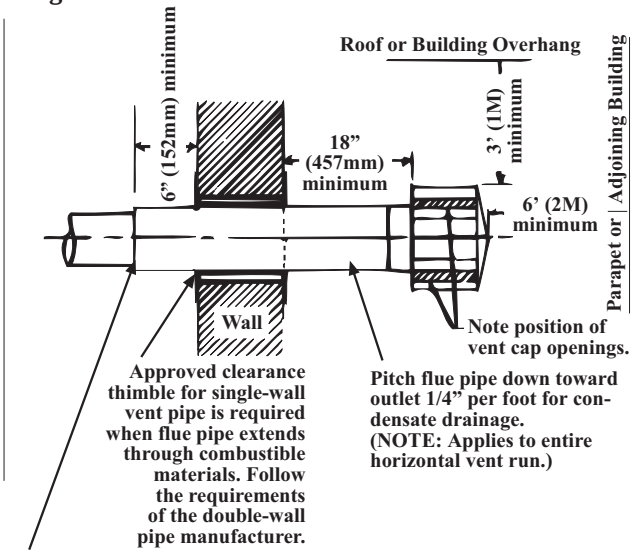

**WARNING: Vent terminal arrangements illustrated are applicable only to units with a power venter. Horizontal vent termination requires a power venter. DO NOT use horizontal vent with gravity venting.**

**Figure 8B - Horizontal Vent Terminal**

**Single-Wall Vent Run and Single-Wall Terminal End**




**Single-Wall Vent Run and Double-Wall Terminal End**




**Follow instructions on page 6 to join single and double-wall pipe and to seal the connection.**

## Horizontal Vent Terminal Clearances

A vent cap is required. Maintain a clearance of 18" from the wall to the vent terminal cap for stability under wind conditions. The location of the termination of the horizontal vent system must be in accordance with National Fuel Gas Code Z223.1. Required minimum clearances are listed on the right.

Products of combustion can cause discoloration of some building finishes and deterioration of masonry materials. Applying a clear silicone sealant that is normally used to protect concrete driveways can protect masonry materials. If discoloration is an esthetic problem, relocate the vent or install a vertical vent.

If the vent terminal is to be installed near ground level, position it at least six inches above maximum anticipated snow depth.

| Structure | Minimum Clearances for Vent Termination Location (all directions unless specified) |
|---|---|
| Forced air inlet within 10 ft (3.1m) | 3 ft (0.9m) above |
| Combustion air inlet of another appliance | 6 ft (1.8m) |
| Door, window, or gravity air inlet (any building opening) | 4 ft (1.2m) horizontally<br>4 ft (1.2m) below<br>1 ft (30cm) above |
| Electric meter, gas meter * and relief equipment | 4 ft (1.2m) horizontally |
| Gas regulator * | 3 ft (0.9m) |
| Adjoining building or parapet | 6 ft (1.8m) |
| Adjacent public walkways | 7 ft (2.1m) above |
| Grade (ground level) | 7 ft (2.1m) above |
| *Do not terminate the vent directly above a gas meter or service regulator. | |

**8. Test Venter Operation**

Turn on the electric and the gas. Following the lighting instructions, light the heater. Test the unit for proper venting. With the building at the maximum negative pressure, operate the heater at the normal input. Note and check the flow direction at the relief opening of the drafthood. Room air should be flowing into the relief opening.

**DANGER: Do not put a heater into service that does not properly exhaust flue gases to the outside atmosphere. See Hazard Levels, page 1.**

Venter installation is complete. **Keep this booklet for future reference.** Replacement parts are on page 8.

**FOR YOUR SAFETY**

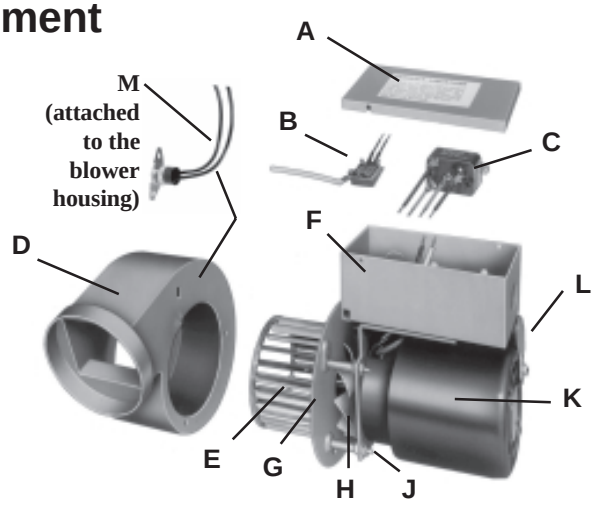
**WARNING: The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.**

**If you smell gas:**

1. **Open windows.**
2. **Don't touch electrical switches.**
3. **Extinguish any open flame.**
4. **Immediately call your gas supplier.**

**DANGER: The gas burner in this gas-fired equipment is designed and equipped to provide safe and economically controlled complete combustion. However, if the installation does not permit the burner to receive the proper supply of combustion air, complete combustion may not occur. The result is incomplete combustion which produces carbon monoxide, a poisonous gas that can cause death. Safe operation of indirect-fired gas burning equipment requires a properly operating vent system which vents all flue products to the outside atmosphere. FAILURE TO PROVIDE PROPER VENTING WILL RESULT IN A HEALTH HAZARD WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH. Always comply with the combustion air requirements in the installation codes and instructions. Combustion air at the burner should be regulated only by manufacturer-provided equipment. NEVER RESTRICT OR OTHERWISE ALTER THE SUPPLY OF COMBUSTION AIR TO ANY HEATER. Indoor units installed in a confined space must be supplied with air for combustion as required by Code and in the heater installation manual. MAINTAIN THE VENT SYSTEM IN STRUCTURALLY SOUND AND PROPERLY OPERATING CONDITION.**

# Replacement Parts

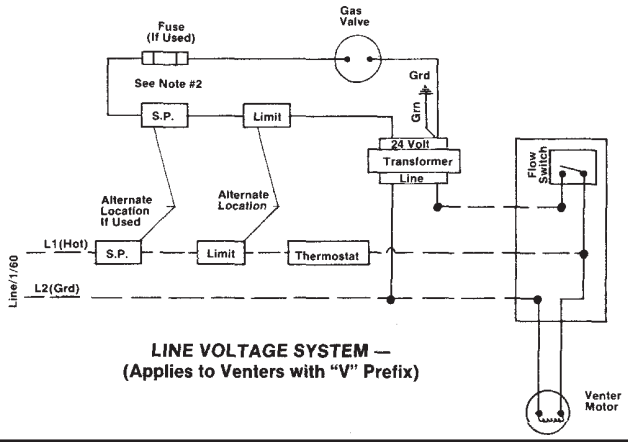


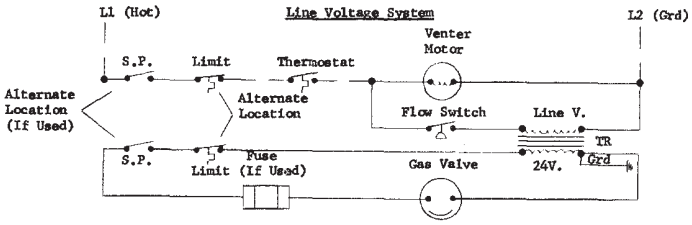

**NOTES:**

- Currently manufactured venter sub-assemblies used in these power venter options are identified by the prefix "LV" (LV301 and LV401). They have 24 volt controls.
- Obsolete Venter Models with prefix "V" have line voltage controls. These venter models are no longer available, but replacement parts are the same as those listed below for the low voltage models. (See the wiring diagram at the bottom of this page for line voltage models.)
- Obsolete 200, 300 and 400 Series venters and components are not available. Replace complete venter with the correct currently manufactured model.

| **Replacement Parts for Currently Manufactured Venter Sub-Assemblies** → | | **P/N 29992** | **P/N 30229** | **P/N 30231** | **P/N 29994** | **P/N 30233** | **P/N 30235** |
|---|---|---|---|---|---|---|---|
| Code | Component Description | | | | | | |
| A | Venter Junction Box Cover | 29596 | 29596 | 29596 | 29596 | 29596 | 29596 |
| B | Sail Switch | 7299 | 7299 | 7299 | 13925 | 13925 | 13925 |
| | | Cemco JMP0154 | | | Cemco 202-4B | | |
| C | RBM Relay Assembly with Wires | 30248 | 30248 | 30248 | 30248 | 30248 | 30248 |
| | RBM Relay only, 84-20102-101 | 14747 | 14747 | 14747 | 14747 | 14747 | 14747 |
| D | Blower Housing Assembly | 6631 | 6631 | 6631 | 10529 | 10529 | 10529 |
| E | Venter Wheel | 29791 | 29791 | 29791 | 29792 | 29792 | 29792 |
| | | Torrington AA326-215-1, 5/16 | | | Torrington AA408-228-1, 5/16 | | |
| F | Venter Junction Box (less cover and mounting bracket) | 29595 | 29595 | 29595 | 29595 | 29595 | 29595 |
| G | Cover Plate | 29594 | 29594 | 29594 | 29597 | 29597 | 29597 |
| H | Fan Blade, 3-1/4 RHF, 312S Bore | 29793 | 29793 | 29793 | 29793 | 29793 | 29793 |
| J | Venter Junction Box Mounting Bracket Assembly | 31393 | 31393 | 31393 | 31393 | 31393 | 31393 |
| K | Motor, Fasco 7162-1775, 115V | 87434 | N/A | N/A | 87434 | N/A | N/A |
| | Motor, Fasco 7162-0186, 208V | N/A | 30249 | N/A | N/A | 30249 | N/A |
| | Motor, Fasco 7162-0158, 230V | N/A | N/A | 29571 | N/A | N/A | 29571 |
| L | Motor Capacitor, Magnetek 60P52-561-8 (replaces P/N 87435 or P/N 103181) | 163894 | N/A | N/A | 163894 | N/A | N/A |
| M | Thermal Switch, Therm-O-Disc #36T22P | 121866 | 121866 | 121866 | 121866 | 121866 | 121866 |

**Wiring Diagrams for Obsolete Optional Venters with Line Voltage Controls (Models V201, V301, and V401)**




**DANGER: Reznor venter must be installed and wired in accordance with Reznor installation instructions. Flow switch must be wired in series with thermostat to interrupt main gas valve circuit. Flow switch must be checked before and after installation of the venter for proper operation. See Hazard Levels, page 1**



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