

**SUPPLEMENT – VENTING INSTRUCTIONS FOR INSTALLATION AND OPERATION INSTRUCTION MANUALS FOR THE FOLLOWING PRODUCT TYPES:**

**HIGH EFFICIENCY CONDENSING COMMERCIAL, COMMERCIAL POWER DIRECT VENT, LIGHT DUTY COMMERCIAL POWER DIRECT VENT, LIGHT DUTY COMMERCIAL POWER VENT, RESIDENTIAL POWER DIRECT VENT, RESIDENTIAL POWER VENT MODEL SERIES, ULTRA LOW NO<sub>x</sub> RESIDENTIAL POWER DIRECT VENT, ULTRA LOW NO<sub>x</sub> LIGHT DUTY POWER DIRECT VENT, ULTRA LOW NO<sub>x</sub> RESIDENTIAL POWER VENT, ULTRA LOW NO<sub>x</sub> LIGHT DUTY POWER VENT, HIGH PERFORMANCE SERIES POWER VENT, COMBI POWER VENT, SOLAR POWER VENT GAS BACKUP.**

**INSTALLATION OF DURAVENT POLYPRO® SINGLE WALL POLYPROPYLENE VENTING SYSTEMS**

This supplement is for the installation of polypropylene single wall venting system manufactured by M&G DuraVent, Inc. The DuraVent Polypro venting system is a CSA approved alternative to the PVC, ABS, and CPVC venting components for the High Efficiency Condensing Commercial, Commercial Power Direct Vent, Light Duty Commercial Power Direct Vent, Light Duty Commercial Power Vent, Residential Power Direct Vent, Residential Power Vent Model Series, Ultra Low NO<sub>x</sub> Residential Power Direct Vent, Ultra Low NO<sub>x</sub> Light Duty Power Direct Vent, Ultra Low NO<sub>x</sub> Residential Power Vent, Ultra Low NO<sub>x</sub> Light Duty Power Vent, High Performance Series Power vent, Combi Power Vent, Solar Power Vent Gas Backup Model Series.

The DuraVent venting system components are ULC S636 approved and listed by a recognized agency and may be installed in the U.S. and Canada. All components used must be from the same manufacturer and are designed for use with the above noted products. The DuraVent components may be purchased from plumbing supply distributors. The vent size diameter and maximum vent lengths must be followed as detailed in the Installation and Operating Instruction Manual that was supplied with the water heater. Thoroughly read and understand the venting section of the instruction manual supplied with the water heater before proceeding with the following instructions in this supplement. The vent terminals supplied with the water heater or the factory approved accessory vent terminal kits must be used with this venting system.

 **WARNING**

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

**DO NOT** install damaged venting system components. If damage is evident then please contact the supplier where the water heater or venting system components were purchased for replacement parts.

Use only the vent terminals provided or factory authorized terminals for venting this water heater.

The water heater requires its own separate venting system. Do not connect the exhaust vent into an existing vent pipe or chimney.

All of the exhaust venting connections must be leak checked with a soap solution upon initial start-up of the water heater. Any leaks must be repaired before continuing operation of the water heater.

Do not terminate the venting where noise from the exhaust or intake will be objectionable. This includes locations close to or across from windows and doors. Avoid anchoring the vent and intake pipes directly to framed walls, floors, or ceilings unless rubber isolation pipe hangers are used. This prevents any vibrations from being transmitted into the living spaces.

Do not exceed the venting distances or the number of elbows listed in the instruction manual supplied with the water heater. Exceeding the maximum venting distances may cause the water heater to malfunction or cause an unsafe condition.

**DO NOT** operate this water heater until the venting installation is complete and the piping completed. Failure to complete installation before operation can result in property damage, personal injury, or death.

 **WARNING**

DO NOT install DuraVent Polypro venting components with any other manufacturer's vent components. DuraVent components must be used exclusively throughout the entire venting system from the water heater coupling or vent connection to the outside wall or ceiling near the vent terminal location.

This supplement is intended only for additional information for installing DuraVent Polypro single wall venting system and the instruction manual supplied with the water heater must be followed for the detailed information provided for the venting system installation.

**Step 1:** Thoroughly read and understand the venting section of the Installation and Operating Instruction Manual that was supplied with the water heater before determining the location of the water heater and the vent terminals. Locate the water heater for the shortest practical vent length to the outside. Measure the total venting distance required to reach the outside wall or roof. Determine the diameter of the venting components to use for the length of vent pipe (and combustion air supply for direct vent models) required by referring to the venting tables in the instruction manual for the maximum vent length for each diameter pipe size. Obtain all the necessary venting system components for the installation.

**Step 2:** Before installation, inspect each vent component for damage making sure the gaskets for each component are fully intact and in undamaged condition. Do not attempt to install or repair damaged components. If a gasket is damaged, these are available from the supplier of DuraVent components. Do not use gaskets from another manufacturer and do not try to repair the gasket.

**Step 3:** A DuraVent PVC to Polypropylene adapter (referred by DuraVent as Appliance Adapters, 2PPS-AD, 3PPS-AD, or 4PPS-AD) must be used to connect into a PVC coupling or tee (Commercial and Residential Power Direct Vent air intake connections), condensate elbow (High Efficiency Commercial Condensing models) or the exhaust outlet adapter for Commercial Power Vent and Residential Power Vent models. To make the insertion of the gasketed fittings into the coupling easier, rotate the joints slightly and use water to lubricate the gaskets. DO NOT use any other kind of lubricant.

Wet the gasket surface and inside of the coupling using your finger or wet paper towel and insert the male end of the adapter with the exterior gasket into the coupling, condensate elbow or exhaust outlet adapter connection. If a larger vent diameter size is to be used, use the appropriately sized reducer coupling first on the water heater intake or exhaust vent connection as detailed in the installation manual supplied with the water heater. See the following photos.

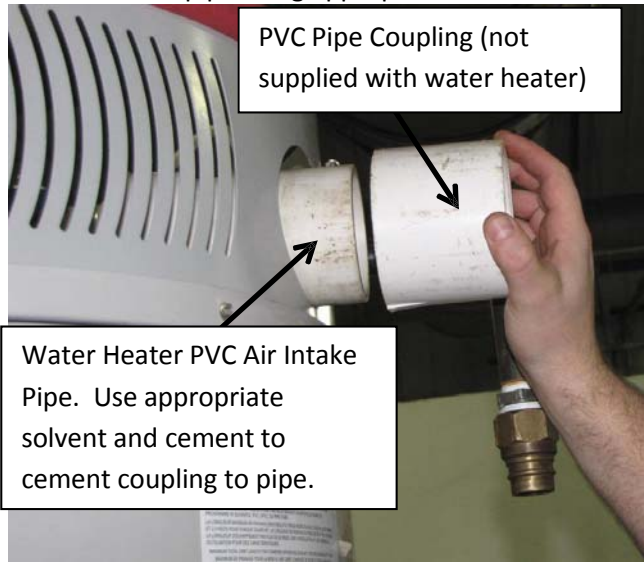
 **WARNING**

Use only water for lubricating the gaskets and pipe ends to allow easy insertion. DO NOT use any other kind of lubricant, since deterioration of the gasket may result, which may allow dangerous flue gases to leak into the room. If the vent pipe needs to be disassembled after the gasket has dried, wet the joint thoroughly to loosen the connection.

**High Efficiency Condensing Commercial Models:** Use the appropriate primer and cement (refer to venting section of instruction manual with water heater) for cementing a PVC coupling (not supplied with water heater) to the end of the PVC air intake pipe connection. Using your finger, wet with water the male gasketed end of the DuraVent PVC to PolyPro adapter and fully insert into the air intake coupling. Loosen the DuraVent adapter connector clamp (PPS-PAC) and install over the PVC coupling. See following photos.

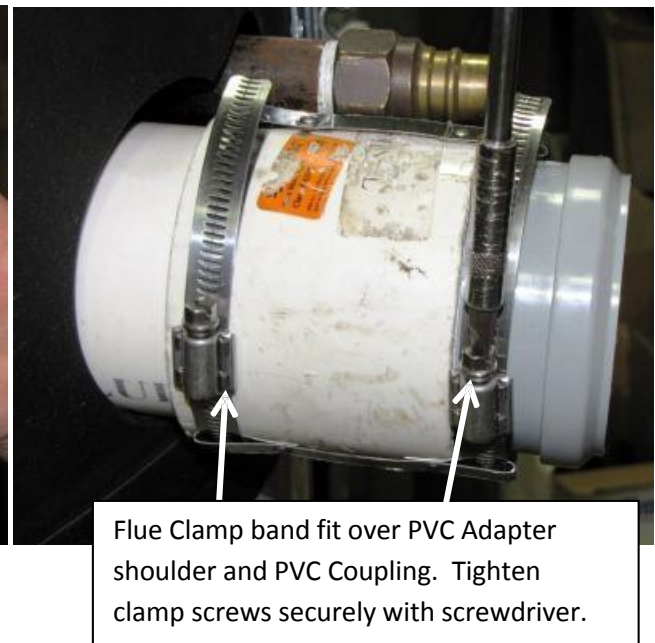
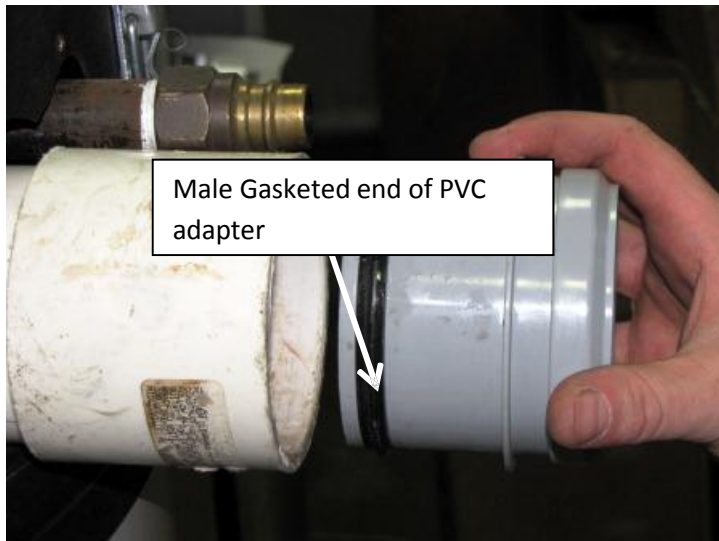
Install PVC pipe coupling over air intake pipe connection and cement to pipe using appropriate solvent and cement.

Wet gaskets of DuraVent PVC Adapter using finger.



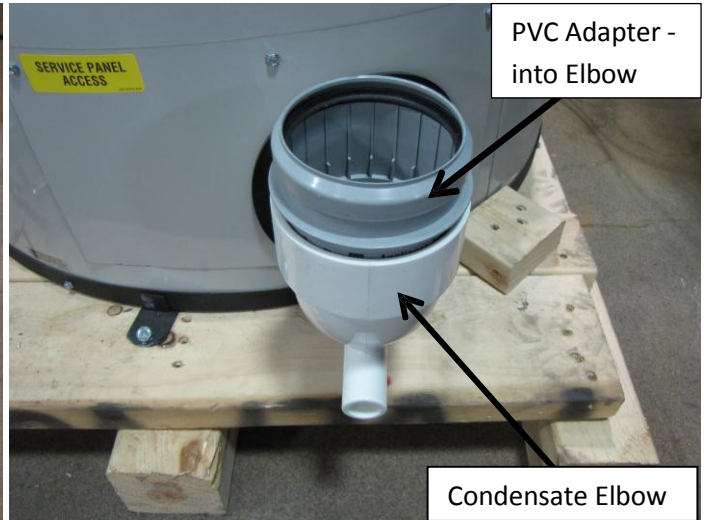
Insert male gasketed end of DuraVent PVC adapter into PVC pipe coupling.

Install DuraVent Adapter Connector Clamp (PPS-PAC) over the PVC coupling so that clamp brackets secure the shoulder of PVC adapter fitting. Tighten clamp screws securely.



**⚠ WARNING**  
DuraVent Adapter Connector Clamps (p/n: PPS-PAC) MUST be properly installed to secure the PVC Vent Adapter. DO NOT operate the vent system without first installing the Flue Adapter Connector Clamps.

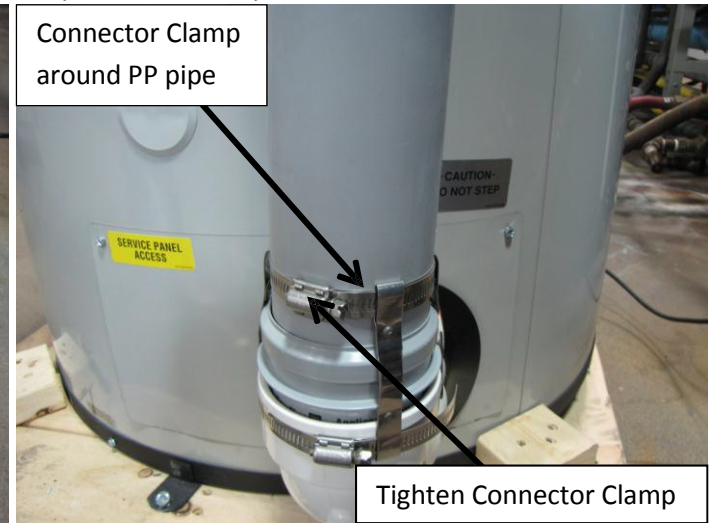
For High Efficiency Commercial Model series exhaust connection, wet outside gasket with finger and insert PVC adapter into the condensate elbow. Insert DuraVent PVC Adapter fitting into Condensate Elbow as shown.



Install DuraVent Connector Clamp around outside of Condensate Elbow as shown.



Tighten Connector Clamp Screw to secure PVC Adapter and Adapter and Vent Pipe into condensate Elbow.



Commercial and Residential Power Direct Vent / Power Vent Models:

For installation of commercial and residential power vent models, install the male end of the PVC to PolypPro adapter into the air intake pipe tee as shown.

Install the adapter connector clamp over the PVC adapter. Then install the elbow or vent pipe section into the PVC adapter. Tighten the clamp bands of the adapter connector to the air intake tee and pipe elbow or straight pipe section to secure vent pipe to the water heater air intake tee as shown below.

PVC Adapter Fitting

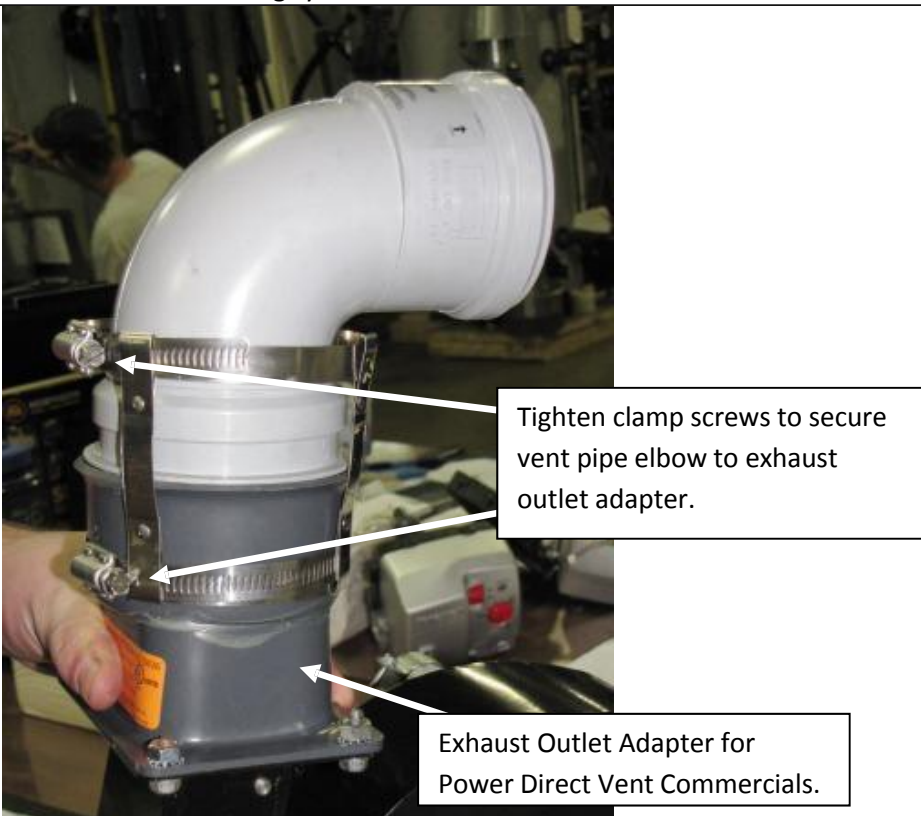


For the exhaust venting for all power vent and power direct vent models, insert the PVC Adapter into the Exhaust Outlet Adapter. On residential models, tighten the clamp to secure the PVC Adapter.

For Commercial Power Direct Vent models, insert PVC Adapter into Exhaust Outlet Adapter.



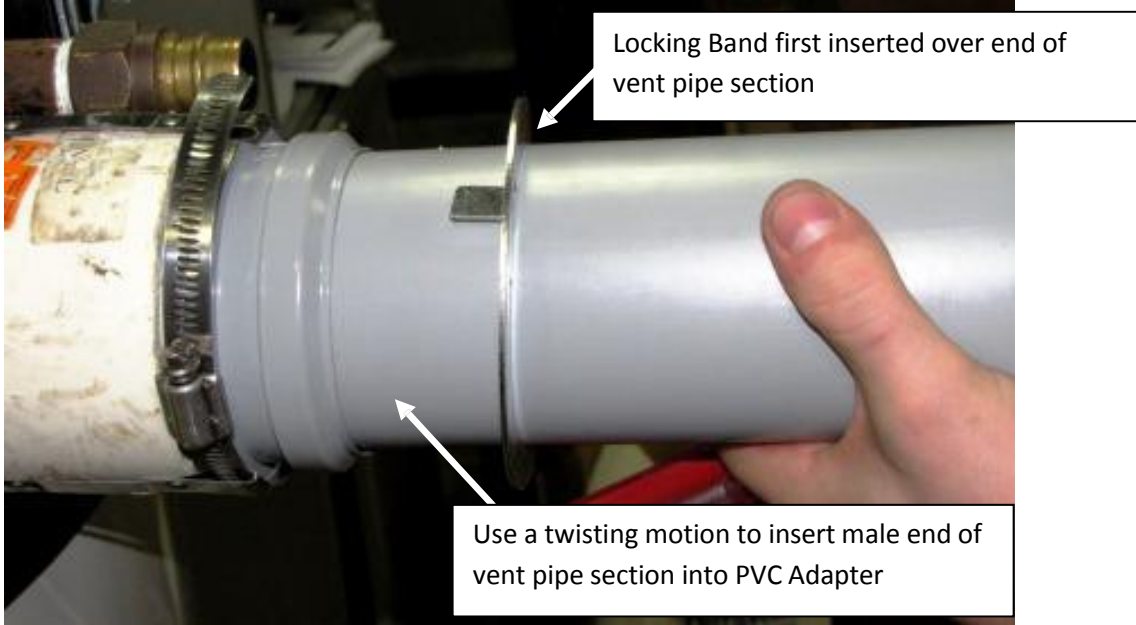
Install the Adapter Connector Clamp over the PVC adapter and install the elbow or next section of straight pipe into the PVC adapter. Then tighten the clamp bands of the Adapter Connector around the Exhaust Outlet Adapter and Elbow to secure venting system.



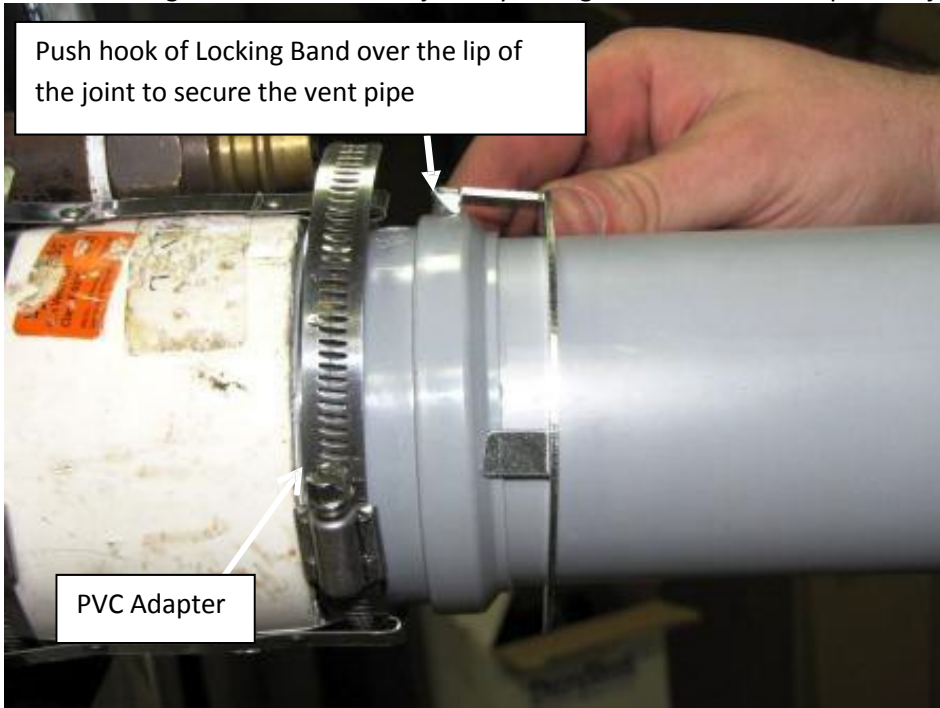
Step 4: Using a finger or paper towel, wet with water the inside gasket of the PVC adapter and the male end (without gasket) of the elbow or straight section of pipe for running the exhaust or intake pipe from the water heater.

Steel joint Locking Bands (available from DuraVent supplier) must be used at each pipe joint. The connector rings ensure that the joints do not separate under heavy loads. These connector rings must be used to comply with ULC-S636 requirements. See following photo with the joint connector attached to the pipe sections.

Insert a Locking Band over the male end of the vent pipe section with the hook and leg facing the joint. Insert the male end of the elbow or straight section into the PVC adapter. Use a twisting motion while pushing the male end of the pipe or elbow into the PVC adapter to fully seat into the gasket. The male end of the pipe or elbow must always point toward the water heater.



Secure Locking Band to connection joint by sliding the hook over the lip of the joint as shown below.



 **WARNING**  
DO NOT operate vent system without properly installing Locking Bands.

## ! WARNING

Make sure pipe sections are fully inserted into the PVC adapter and/or gasketed end of DuraVent fitting. Insertion depth is no less than 2 inches.

Step 5: DuraVent supplied support brackets must be used to support the pipe sections. The vent pipe sections **must be** supported a minimum of every 10 feet (3 meters) of vertical run or on every horizontal pipe section. Consult local codes for additional requirements.

DuraVent supplies two types of approved clamps available for hanging the vent pipe. The Polypropylene snap style clamp can be attached at either the male or female end of the pipe. Determine the location for the anchor bolt mounting to the wall or framing member. Mount the anchor bolt supplied with the clamp. Align the encapsulated nut of the clamp with the anchor bolt and rotate the body of clamp with the nut onto the threads of the anchor bolt. With the vent pipe in place, the clamp is then snapped together by closing the clamp around the vent pipe body or female end of the pipe.

The metal Wall Strap type clamp can only be mounted on the body of the vent pipe. Open the metal clamp to fit around the body of the vent pipe and slide into the desired location to secure to the wall or ceiling. Secure to the wall or structural member by using (2) 1 ½" #8 wood screws or equivalent (not supplied with clamp). Secure the clamp around the vent pipe by tightening the nuts and bolts of the clamp.

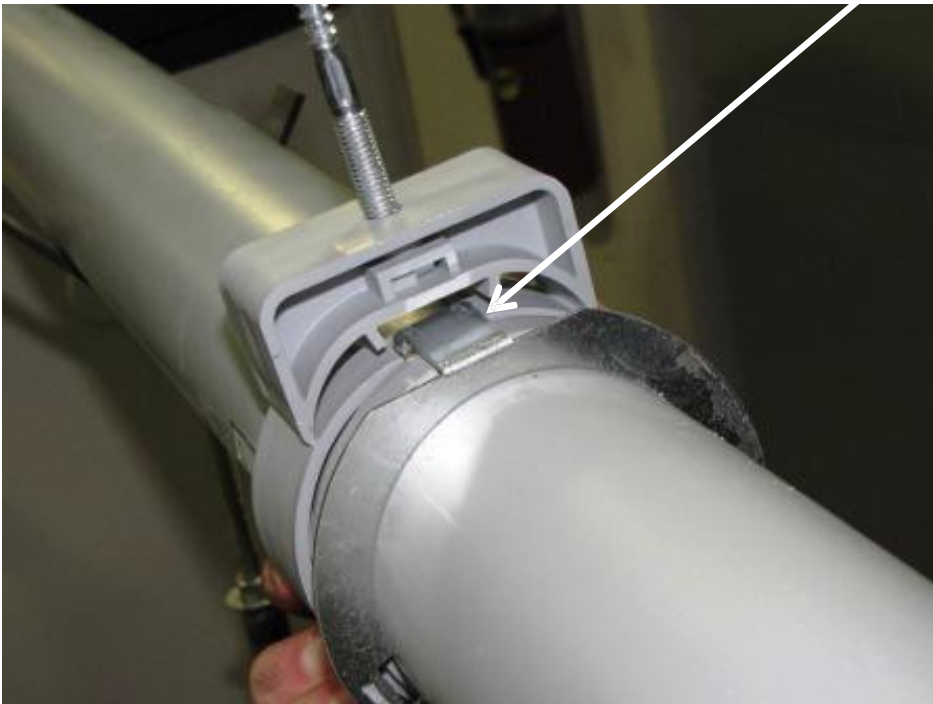




Plastic Clamp also fits over Female Flange of DuraVent Vent Pipe Sections



Plastic Clamp opening allows room for Locking Bands to hook over flared female joint



Tighten Metal Clamp around body of vent pipe.



Metal clamp fastens to wall with wood screws



#### High Efficiency Commercial Condensing Models:

For horizontal sections of flue pipe, the pipe must be installed with a slight upward slope of approximately  $\frac{1}{4}$  inch per foot (20 mm per meter) toward the water heater to allow condensate to drain into the condensate elbow.

#### Residential and Commercial Power Direct Vent / Power Vent Models:

To prevent condensate from accumulating in the exhaust blower, install the horizontal vent pipe with a downward slope toward the vent terminal of  $\frac{1}{4}$  inch per foot (20 mm per meter) of horizontal vent pipe. An optional condensate kit is available for residential power vent models or a tee fitting with a condensate drain loop may be used on commercial power direct vent models to prevent condensate accumulation in the blower for long vertical runs of vent pipe. Refer to the venting section of the Installation and Operating Instructions supplied with the water heater.

Step 6: If any of the straight pipe sections need to be cut, use a hack saw and make a straight cut on the male (ungasketed) end of the pipe. When making the cut, allow for the 2" minimum (51 mm) insertion distance inside the female end of the pipe. Make sure the cuts are made square and use a razor knife to deburr the edges of the cut pipe to avoid any sharp edges that may damage the gasket.

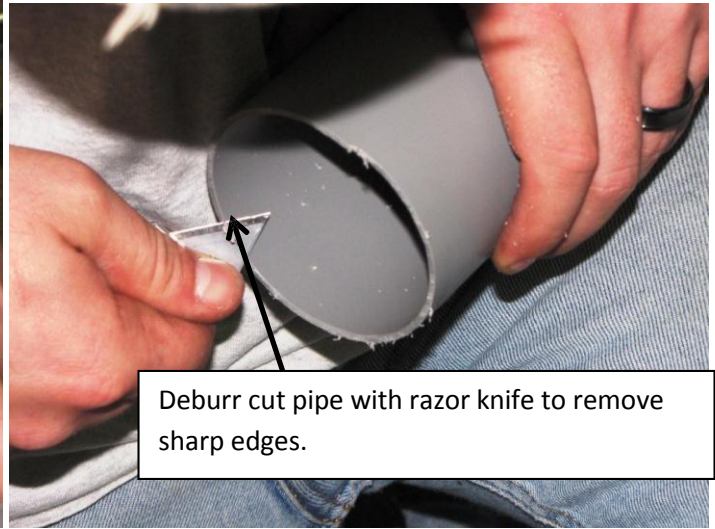
DuraVent has adjustable vent pipe sections available, which allow 4.5 inches (114 mm) of adjustment to the length.

### **WARNING**

Cut pipe edges must be properly deburred. Damage to the gasket from not deburring the edges of the cut male end may result in the release of dangerous flue products.

Cut end of pipe to length using a hacksaw. Cut male end only and allow for 2" insertion depth into female end of fitting.

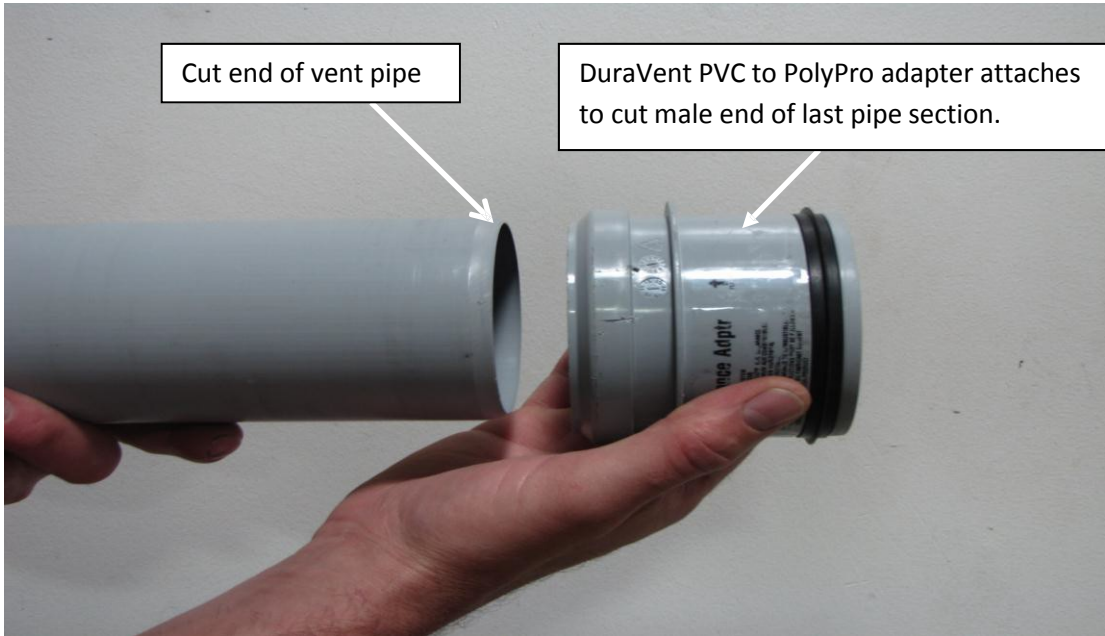
Deburring cut pipe edge with razor knife to remove sharp edges to prevent gasket damage.



Step 7: Continue installing straight sections of pipe and elbows and support with pipe support clamps as previously shown on every horizontal pipe section or at least every 10 feet (3 meters) for vertical runs. Run the vent pipe near the outside wall or roof to be terminated. A DuraVent PVC to PolyPro Adapter (2", 3" or 4" diameters) must be used to connect the DuraVent polypropylene vent pipe to PVC pipe first before exiting the wall or roof. The female flared end (inside gasket) of the last DuraVent pipe section must be cut off at the proper length needed. Connect the female end of the PVC Adapter into the end of the last pipe. Connect the PVC coupling over the male gasketed end of the PVC Termination Adapter. Secure the PVC pipe coupling to the DuraVent PVC adapter with the Adapter Connector Clamp and detailed previously. Cut the PVC pipe to the length needed to exit the wall or roof. Refer to the installation instruction manual supplied with the water heater for information regarding the location of the vent terminals.

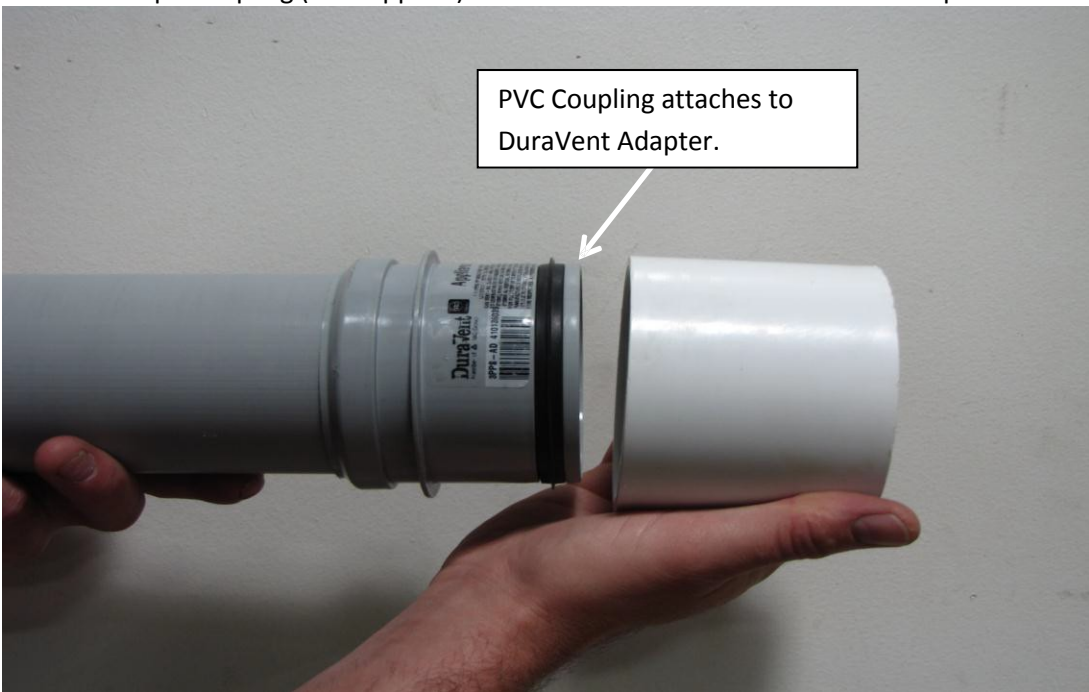
Cut the male end of the last piece of pipe to the length as needed to get near the exiting wall or ceiling of the desired outside vent terminal location. Install this last section of pipe.

Install the appropriate diameter DuraVent PVC Adapter on the end of the last pipe.

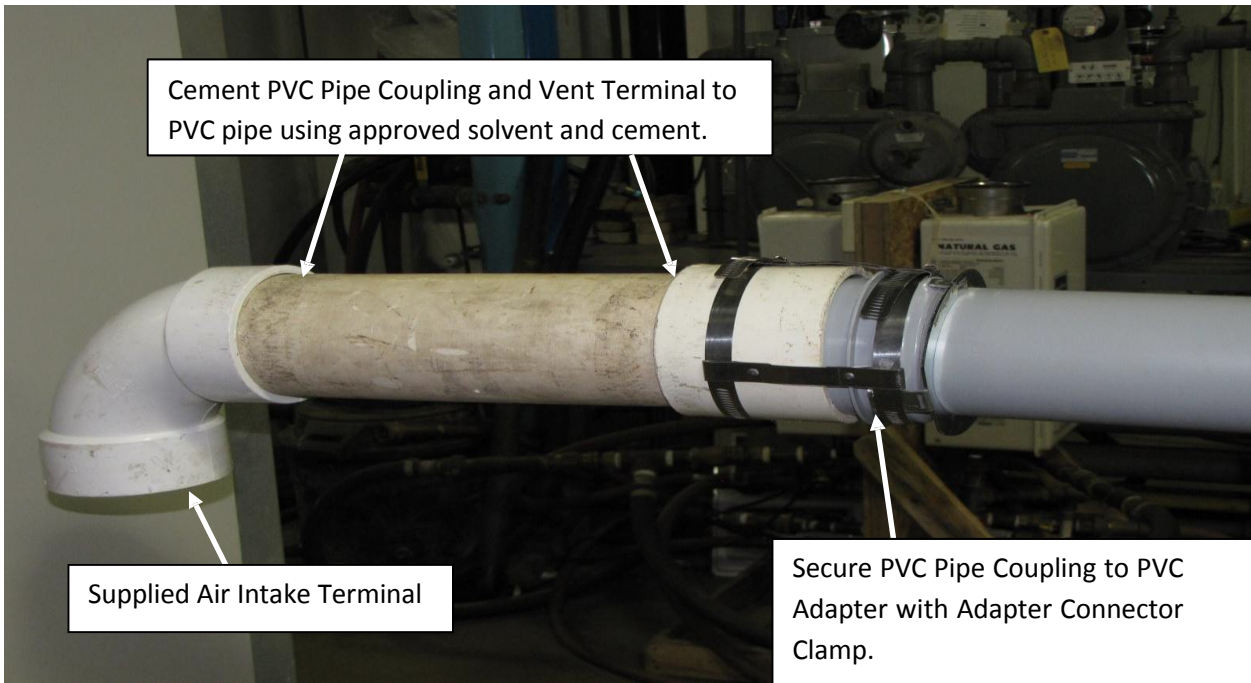


Install a PVC coupling onto the male gasketed end of the DuraVent PVC Adapter. A reducer coupling may be needed to use the supplied vent terminals if a larger pipe diameter size was used. Cement the straight section of PVC pipe to the PVC pipe coupling. Install the PVC pipe to exit the wall or roof, and then cement the vent terminal onto the PVC or CPVC pipe. Refer to the venting section of the water heater Installation and Operating Instruction manual for the appropriate solvent and cement to use. The exhaust vent terminal for the EF model series is shown. Use the vent terminals supplied with the water heater. See the following photos.

Install PVC Pipe Coupling (not supplied) over the male end of DuraVent PVC Adapter.



Secure the PVC coupling to the PVC Terminal Adapter with the DuraVent Flue Pipe Clamp. Cement a short section of PVC pipe into the PVC pipe coupling. Cement the supplied PVC exhaust terminal coupling onto the PVC pipe.



**Step 8:** After the venting system installation is completed, start the water heater and check all joints for leaks using a soapy water solution. Any leaks found must be repaired. If a gasket is damaged, replacement gaskets may be obtained from the local DuraVent supplier.

### **WARNING**

All of the exhaust venting connections must be leak checked with a soap solution upon initial start-up of the water heater. Any leaks must be repaired before continuing operation of the water heater. Periodically check all venting system connections for leakage. Replace any defective venting components. Refer to the maintenance section of the Installation and Operating Instructions for further details.