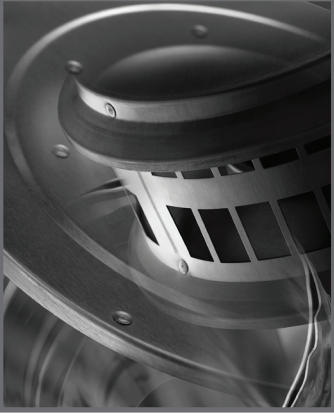


Installation Instructions



Round and Oval Type B GasVent Systems for use with natural as or liquid propane category I and draft hood equipped appliances and appliances listed to use Type B Gas Vent.

TYPE B GAS VENT

DuraVent®

A MAJOR CAUSE OF VENT RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF THE UTMOST IMPORTANCE THAT TYPE B GAS VENT BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

NOTE:

READ THROUGH ALL OF THESE INSTRUCTIONS BEFORE BEGINNING YOUR INSTALLATION. FAILURE TO INSTALL AS DESCRIBED IN THIS INSTRUCTION WILL VOID THE MANUFACTURER'S WARRANTY, AND MAY HAVE AN EFFECT ON YOUR HOMEOWNER'S INSURANCE AND UL LISTING STATUS. KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE.

IMPORTANT:

Read through all of these instructions before beginning your installation. Failure to install this product as described in these instructions will void the manufacturer's warranty, may create a fire or other safety hazard, and may affect your homeowner's insurance and safety listing of your appliance.

Keep these instructions for future reference.

Dear Customer, Installer, or End User:

We welcome any comments regarding matters pertaining to our DuraVent products.

We welcome any ideas, input or complaints and I'll make sure that someone responds directly back to you.

Send your emails to:
customerservice@duravent.com

If you are searching for tech support or product information, please call us at 800-835-4429.

Or email us at:
techsupport@duravent.com



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TYPE B GAS VENT INSTALLATION INSTRUCTIONS

CONTENTS

Round B Vent, General Information, Planning	4
Steps for Typical Installations	7
Bucket Support	11
Combination Cap	11
Adjustable Elbows, Male and Female Adapters.	12
Relining Masonry Chimneys for use with Gas Appliances	13
Troubleshooting.....	17
Maintenance	18
Oval B Vent, Installation Notes	19
4-Inch Oval Installation in 2x4 Inch Stud Walls	22
5-Inch Oval Installation in 2x4 Inch Stud Walls.....	24
6-Inch Oval Installation in 2x6 Inch Stud Walls	26

TYPE B GAS VENT

DuraVent®

ROUND B VENT

GENERAL INFORMATION

Type B Gas Vents are for venting listed Natural Gas or Liquid Propane Category I appliances only. The appliances listed below typically (but not always) use Type B vent systems.

Boilers
Furnaces
Water Heaters
Unit Heaters
Room Heaters
Duct Furnaces
Floor Furnaces
Decorative Gas Appliances

DuraVent Type B Vent Systems may be used on other gas-burning appliances, provided the manufacturer of the appliance states in their installation instructions that Type B-vent is acceptable. Do not use Type B Vents for Category II, III, or IV gas appliances. Type B Vent shall not be used to vent flue products from incinerators, combination gas/oil appliances, oil-fired, or wood-burning appliances. If there is a question about the use of Type B Vents, contact the appliance manufacturer or DuraVent's Engineering Department for further information.

PLANNING

1. Appliances. Carefully review the appliance manufacturer's installation instructions for positioning the unit, any special venting or connector requirements, and verify that it is a Category I appliance or an appliance that requires the use of Type B gas vent.

2. Placement. The placement of the vent and fittings must be in accordance with Local Codes, as well as accepted venting practices. If more than one appliance is to be connected

to one venting system, the common vent must be correctly sized. It is a good idea to make a sketch of the proposed installation, labelling the components you will need. Adjustable Pipe Lengths are available to make up odd lengths. Minimize the number of turns and lateral runs, as the National Fuel Gas Code places limitations on these. A 45° turn is preferable to a 90° turn. The appliance reference material should be consulted at this time, as well as any Local Authority having jurisdiction. In most localities, building permits are required for any new appliances, or modifications to existing venting systems.

3. Figures 1, 2, & 3 show examples of some typical residential installations.

4. Clearance to Combustibles. *A 1-inch clearance (air space) to combustible materials must be maintained, when using DuraVent Round B-Vent, regardless of the pipe diameter.*

5. Combustion Air. Refer to appliance installation instructions and local building codes to ensure compliance with required volume of combustion air for each appliance installed.

6. Slope. If the venting system contains lateral (horizontal) components, they shall be positioned so they have an upwards slope away from the appliance of not less than 1/4-inch rise per foot of run. (Horizontal vent installed in attics, unconditioned area, or between floors have further restrictions, please consult your local building codes for specific limitations.)

7. Termination Area. Examine the area where the vent system will terminate. The height of the termination above the roof is determined by the roof pitch, and also its proximity to adjacent walls or obstructions. Consult Table 2 for proper termination height requirements. Vent pipe with 3"-12" diameter must terminate

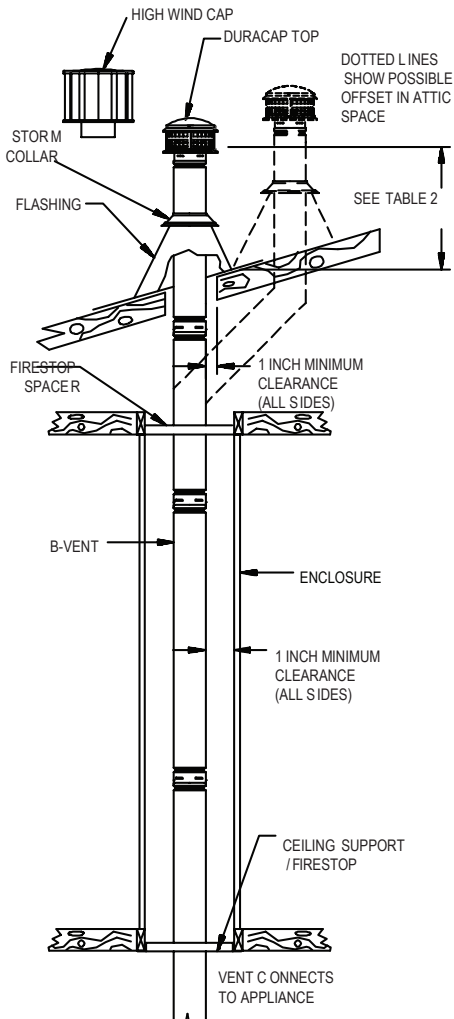


Figure 1

at least 2 feet higher than an adjacent wall or obstruction, if it is within 8 feet. Vent pipe with 14" or larger diameter must terminate at least 2 feet higher than an adjacent wall or obstruction, if it is within 10 feet.

8. Connector Rise. Plan a minimum of one foot vertical connector rise coming out of each appliance.

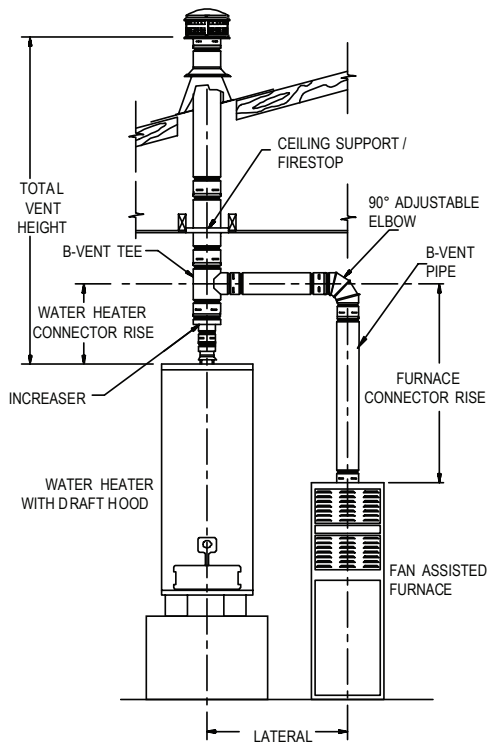


Figure 2

STEPS FOR TYPICAL INSTALLATION

- 1. Location.** Building Code requires the appliance(s) to be located as close to the vent as possible. After consulting the local codes, appliance installation instructions and any other applicable reference material determine the optimum location for the appliance(s).
- 2. Penetration Point.** Locate and mark the center of the penetration point through the ceiling or the wall. Refer to **Step 3 or 4**, as appropriate.

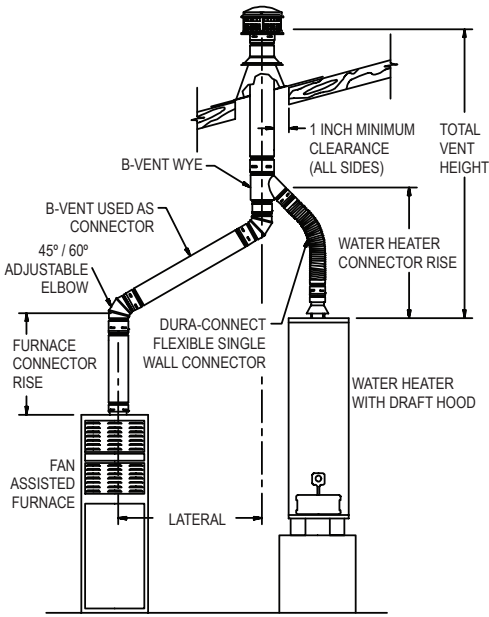


Figure 3

TABLE 1		
PIPE SIZE	STOCK NUMBER OF CEILING SUPPORT	FRAMED INSIDE DIMENSIONS (X & Y) FIG.4
3 INCH	1440	6"x6"
4 INCH	1441	7"x7"
5 INCH	1442	8"x8"
6 INCH	1443	9"x9"
7 INCH	1444	10"x10"
8 INCH	1445	11"x11"
10 INCH	1446	13"x13"
12 INCH	1447	15"x15"

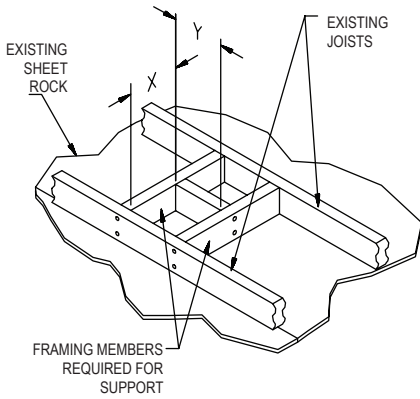


Figure 4

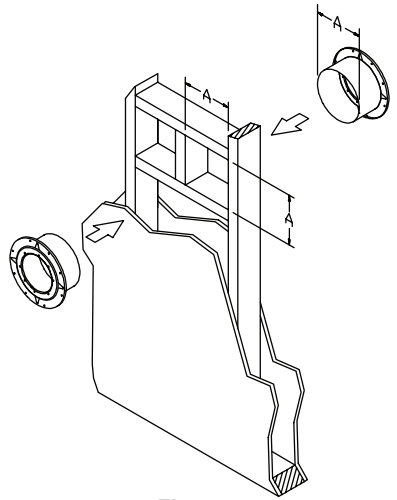


Figure 5

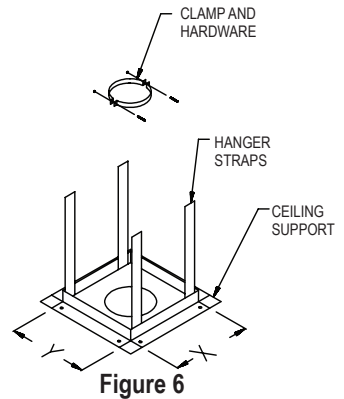


Figure 6

3. Ceiling Support. For a ceiling supported system, install the Square Firestop/Support as shown in **Figures 6, 7, and 8**. The Firestop Support must be framed in and the dimensions are shown in **Table 1** and shown in **Figure 4**. Firestop Supports are currently manufactured for pipe sizes of 3" through 12" only. Larger sizes may be locally fabricated from sheet metal, provided that the mandatory 1-inch clearance is maintained, the pipe is adequately supported, and the installation is acceptable to Local Authorities. In multistory buildings, a Firestop/Spacer must be provided at every floor /ceiling level other than the first floor which requires a support.

4. Wall Thimble. For a through-the-wall system, install the Wall Thimble, as shown in **Figure 5**. The Wall Thimble is designed to accommodate walls up to 6 inches thick. If you have thicker walls, a sleeve extension should be fabricated and attached to the existing sleeve. Do not fill the air space between the B-vent Pipe Section and the Wall Thimble with insulation, although an RTV-type sealant may be applied around the flange and nail heads if desired.

5. Pipe Assembly. Sections of DuraVent round pipe are joined together by lining up the female end of the locking lug with the male end slot, pushing them together, and turning clockwise to twist lock. Refer to **Figure 9**. Sheet metal screws are not needed for 3" through 8" diameter pipe. However, if desired, use 1/4-inch long sheet metal screws for 3" through 8" diameter pipe. Never penetrate the inner liner with screws. For 10" through 16" diameter pipe, DuraVent recommends using a minimum of (4) 3/8" sheet metal screws per joint, and a minimum of (6) 3/8" sheet metal screws are required per joint for 18" and larger diameters. Each Pipe Section is labelled, and an arrow shows the direction of the exhaust flow.

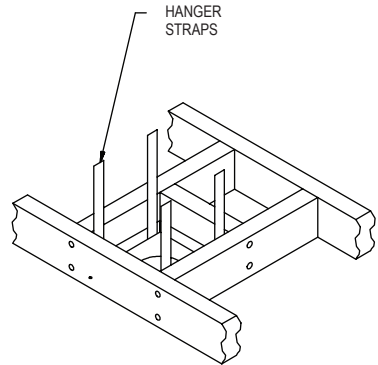


Figure 7

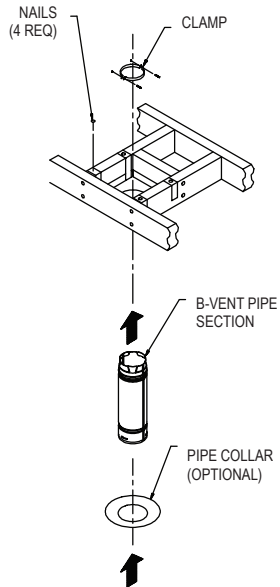


Figure 8

For ceiling supported installations, place a Pipe Section, or assembled Pipe Sections, through the hole in the Square Firestop Support, and tighten the Clamp. The Clamp will rest inside the Ceiling Support, and prevent the Pipe Sections from dropping down. The Pipe Section(s) should protrude a minimum of one inch below the ceiling.

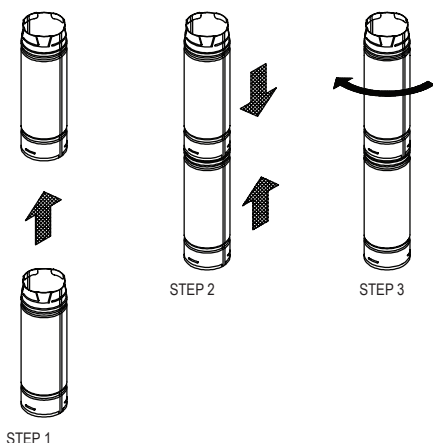


Figure 9

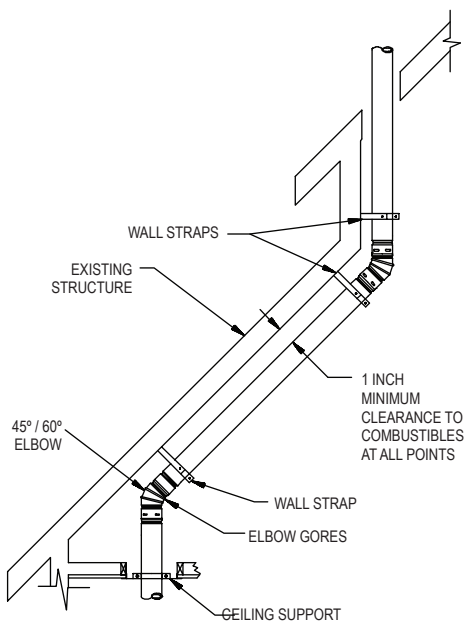


Figure 10

An optional Pipe Collar is available for decorative purposes.

6. Connectors. Only DuraVent connectors should be used between the appliances and the venting system. Some appliances require Type B-Vent as a complete dedicated system from the flue collar of the appliance to the termination of the vent to the outside atmosphere. DuraVent's DuraConnect, a UL listed flexible connector, can be used if single wall connectors are allowed. If a B-vent connector is required, UL listed double wall flexible DuraConnect II, can be used.

7. Elbows. When Elbows are required, strap the Pipe Sections and/or Elbows in place using Wall Straps. **Important:** the offset must be supported with Wall Straps to prevent the weight from stressing the elbows, as shown in **Figure 10**.

8. Tees and Wyes. Tees and Wyes are used to combine connectors from 2 or more appliances into a common vent as shown in **Figures 2 and 3**. A Tee should be used in a through-the-wall application, (**Figure 11**), as they have a removable Tee Cap (available as a separate item) attached to the bottom. This Tee Cap may be removed in order to inspect the system, or to clean out debris or collected condensate from the common vent. Wall Straps should be used to support the vertical pipe as needed to provide a secure installation. Wall Straps every four feet are required.

9. Enclosures. Any portion of the vent which passes through an occupied area must be enclosed, to prevent accidental damage to the system, as well as burns. **Figure 1** shows a system which passes through an occupied second floor. DuraVent does not recommend installation of B-Vent Pipe on the outside wall of a building, particularly in cold climates. If it is necessary to do this, enclose the outside portion of the system in a chase, as shown in **Figure 11**. Consult the Local Authority

prior to construction. Note that the enclosure requires an access door for inspection and maintenance purposes.

10. Terminations. Where the Pipe Sections pass through the roof, a hole must be cut to provide a minimum clearance (air space) of 1 inch between the Pipe and construction materials. Straight lengths of pipe are run up above the roof a minimum of 1-foot. (**Refer to Table 2**) A Roof Flashing is placed down over the pipe, and adjusted so it fits tightly against the roof, with the Pipe Section held in a position maintaining the 1 inch minimum clearance from combustibles. The Flashing is then nailed to the roof. The roofing material (shingles, asphalt paper, etc.) should overlap the top edge (uphill side) of the Flashing. A non-hardening sealant should be used around the edges of the flashing base where it meets the roof. Non-hardening sealant is placed around the joint between the Flashing and the vertical Pipe Section and the Storm Collar is then placed over this joint, to make a watertight seal. (**Figure 12**) Add sufficient Pipe Sections to attain the minimum height specified in **Table 2** (see next page). To connect the Termination Cap to the pipe, hold Cap by its collar, slide collar over locking lugs of pipe, and twist-lock clockwise. Termination Caps of diameters greater than 16 inches do not twist-lock, but are affixed with sheet metal screws.

11. Inspection. This completes the installation steps. Conduct a final inspection to ensure that all joints are secure, the system is properly supported, and is mechanically sound. Especially verify that the one-inch clearance to combustibles requirement has been met, and that adequate combustion air will be furnished to the appliance.

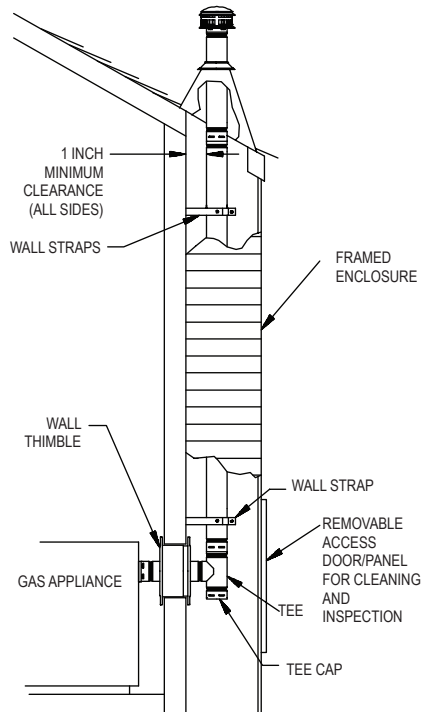


Figure 11

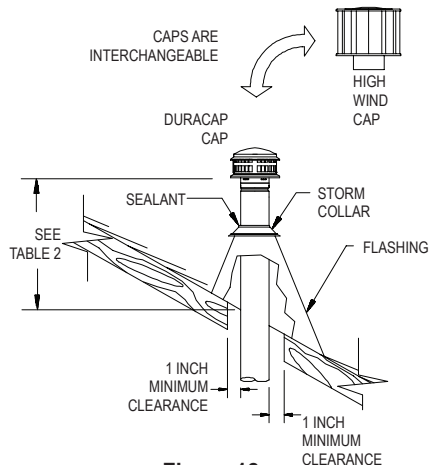


Figure 12

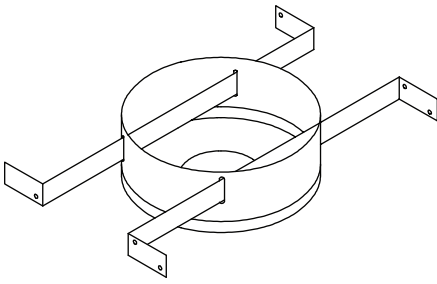


Figure 13

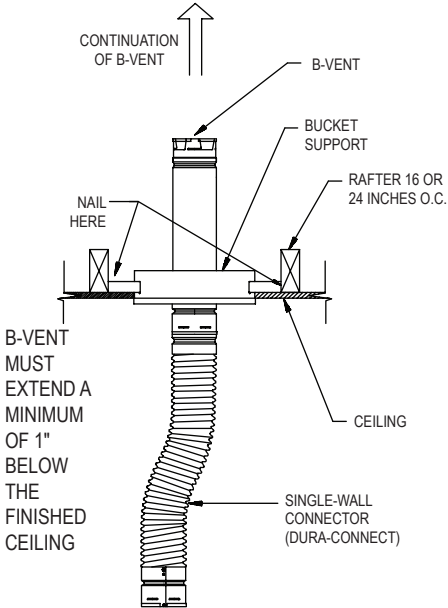


Figure 14

BUCKET SUPPORT

1. Description. The Bucket Support (*Figure 13*) is for properly supporting the B-vent between 16 or 24-inch O.C. joists or rafters, or for providing a transition fitting between DuraConnect or DuraConnect II and the B-vent Pipe Sections. A maximum of 20 feet of Type B Gas Vent may be supported. Note that the Bucket Support must be installed prior to the sheetrock.

2. Assembly. After you have determined

TABLE 2

Gas vent systems using vent caps listed by underwriters laboratories may terminate in accordance with this vent termination table

ROOF PITCH	MINIMUM HEIGHT	
	FEET	METERS
FLAT TO 7/12	1	0.3
OVER 7/12 TO 8/12	1.5	0.46
OVER 8/12 TO 9/12	2	0.61
OVER 9/12 TO 10/12	2.5	0.76
OVER 10/12 TO 11/12	3.25	0.99
OVER 11/12 TO 12/12	4	1.22
OVER 12/12 TO 14/12	5	1.52
OVER 14/12 TO 16/12	6	1.83
OVER 16/12 TO 18/12	7	2.13
OVER 18/12 TO 20/12	7.5	2.29
OVER 20/12 TO 21/12	8	2.44

where the B-vent should be located, assemble the Bucket Support and Brackets. Nail the assembly to the bottom side of the joist material as shown in *Figure 14*. After the Support Bucket is in place, scribe and cut out a hole in the sheet rock 1/8" larger than the diameter of the Bucket, and nail into place. Run the Pipe Sections through the hole in the Bucket Support, connect the DuraConnect or DuraConnect II Connector, and attach the Clamp so that it rests inside the Bucket, and will support the Pipe. Adjust the Pipe to the desired height and tighten the Clamp. This will provide a complete engineered support system.

COMBINATION CAP

1. Description. The Combination Cap, provides an easily installed, safe and efficient B-Vent Cap and Flashing, as one lightweight unit. The two basic components and the assembled unit are shown in *Figure 15*. The Combination Cap is designed to accommodate roof pitches from flat to 6/12, and is available for 3" through 6" diameter B-Vent pipe.

2. Location. Locate the point in the underside

of the roof where the system is to penetrate, using a plumb bob or level.

3. Hole. Remove sufficient roofing material to cut a hole in the roof which will allow a minimum of 1 inch air space between the B-Vent and combustible roofing materials.

4. Flashing. Position the Flashing so the hole is directly over the end of the pipe, as shown in **Figure 16**. Run the top edge of the Flashing under the roof covering, nail as required, and seal with a non-hardening sealant, as shown in **Figure 17**. Seal all nail heads.

5. Height. Add sufficient Pipe Sections of B-Vent until the system terminates 1-1/2" to 3" above the collar of the Flashing as shown in **Figure 16**.

6. Top Cone. Slip the Top Cone over the Flashing, so the vertical straps on the Flashing coincide with the slots at the base of the Cone. Slip the straps up through the slots as shown in **Figure 18**. Adjust the Top Cone to a generally vertical position. Holding the Top Cone in position, bend the straps down as shown.

7. This completes the installation. Conduct a final inspection of the job to ensure proper joints, correct procedures, sealed nail heads, etc.

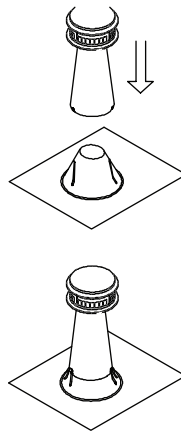


Figure 15

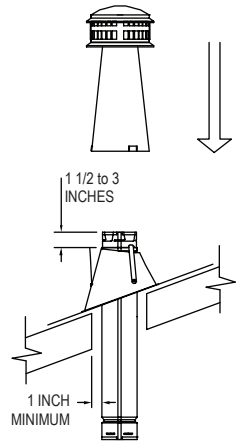


Figure 16

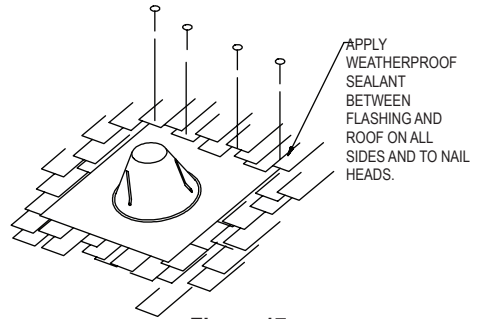


Figure 17

ADJUSTABLE ELBOWS

1. Purpose. This section furnishes supplemental information concerning Adjustable Elbows, both 90° and 45°/60°.

2. Connections. In addition to twist locking the elbows, the connection may be further secured by using sheet metal screws at the joint where the male and female parts overlap, provided that the screws **DO NOT** penetrate the inner liner as shown in **Figure 19**. One screw per joint is normally sufficient. Use #8 Pan Head sheet metal screws which are no longer than 1/4 inch. Wall Straps must be

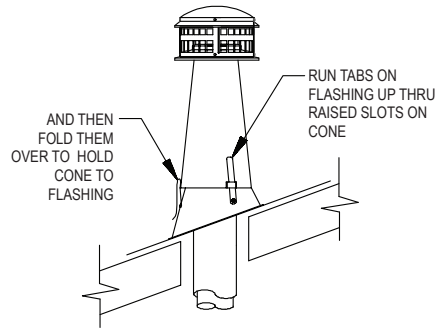


Figure 18

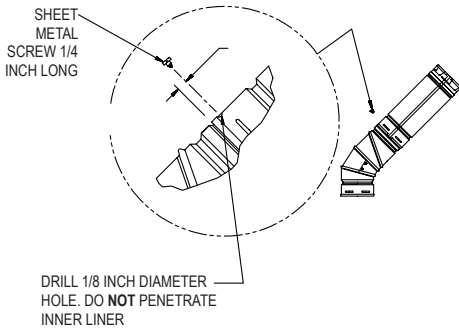


Figure 19

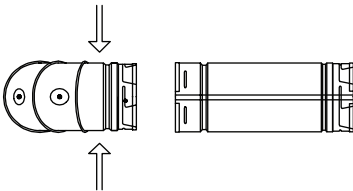
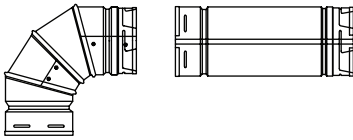


Figure 20

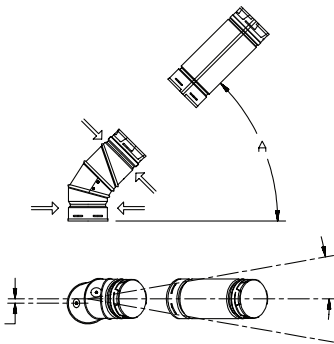


Figure 21

used to support each elbow (**Figure 10**). Do not allow the elbows to support the weight of the vent pipe.

3. 90° Elbows. Figure 20. The installer should apply pressure to the section at the points indicated by the arrows. This will prevent the adjacent sections of the elbow from turning, as the next pipe or fitting is twist-locked on. This is important, because once these sections start rotating, the elbow does no longer have a 90° angle.

4. 45° Offsets with 90° Elbows. Figure 21 shows a 90° Adjustable Elbow being utilized to accomplish a 45° offset. This Elbow is completely adjustable from 0° to 90°. Please note that the centers of the upper sections tend to displace by a slight amount, as they are rotated. Again, screws (not longer than 1/4") may be used to secure the joint. Wall Straps should also be utilized to enhance the stability of the vent system.

MALE AND FEMALE ADAPTERS

1. Description. The male and female adaptors enable an installer to connect DuraVent B-vent components to an existing Type B gas vent system manufactured by the following companies: Air Jet, American Metals Products, ECCO Mfg, Hart & Cooley Mfg, Household Mfg, Metal Fab. Inc, Mitchell Metal Products, White Metal Products.

2. Connecting into Existing Competitors System. To connect into an existing competitors gas venting system from below, or from the appliance side, connect a Female Adaptor as shown in **Figure 22**, insuring that the inner liner of the adaptor is outside the inner liner of the existing pipe. Push the adaptor as far up as it will go, and tighten the locking bolt until the connection is snug.

3. Extending an Existing Competitors System. To continue an existing competitors

system up towards the termination using DuraVent Type B Gas Vent, connect a Male Adaptor to the last section of the system, as shown in **Figure 23**, insuring that the inner liner of the Adaptor fits smoothly inside the Pipe or fitting below it. Push the Adaptor down as far as it will go, and tighten the locking bolt until the connection is snug.

RELINING MASONRY CHIMNEYS FOR USE WITH GAS APPLIANCES

1. Description. A masonry chimney should be relined with B-Vent when venting a Category I gas appliance, such as a gas fireplace insert or freestanding gas stove, or to improve the venting and reduce condensation of existing gas appliances which are currently venting into the masonry chimney. These instructions encompass two general configurations: (1) A gas fireplace situated inside an existing masonry fireplace (**Figure 24**) or (2), a freestanding gas appliance venting into an existing masonry chimney. (**Figure 30**)

2. Masonry Inspection. Have the masonry chimney inspected by a CSIA Certified Chimney Sweep or other qualified professional to determine it's structural condition. Clean and repair as necessary.

3. Gas Fireplace. Carefully read the appliance manufacturer's installation instructions. Use the recommended vent size. Do not reduce the vent size below that of the flue exit on the appliance. Do not common vent gas fireplaces.

(a) Measurements. Measure and record the dimension as shown on **Figure 25** (Height "A"). You will need an additional 15" of vent above the masonry chimney. It is a good idea to allow for a little extra height in your measurements.

(b) Pipe and Fitting Requirements. The bottom 5 foot section of vent will be Flex Pipe

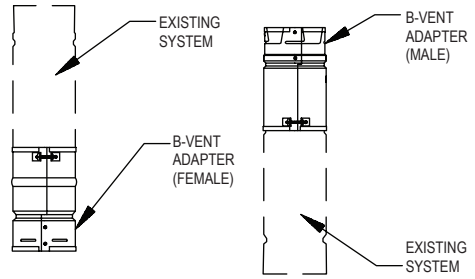


Figure 22

Figure 23

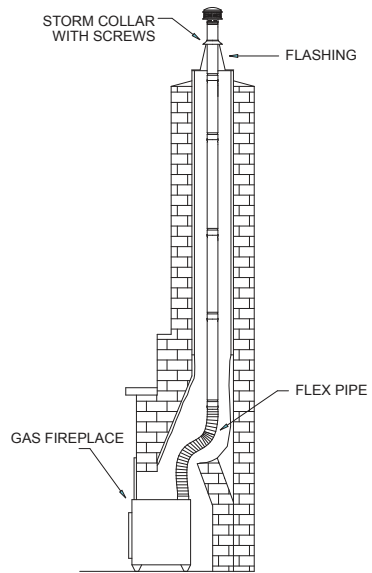


Figure 24

(used to get around the smoke shelf, and to connect to the appliance). The remainder will be rigid B-Vent Pipe Sections. For each pipe joint, subtract 1-1/2 inches.

(c). Connector. Read the appliance manufacturer's instructions for connecting the Flex Pipe to the appliance. In most cases, a Draft Hood Connector will be required as shown in **Figure 26**. If you are not sure, contact

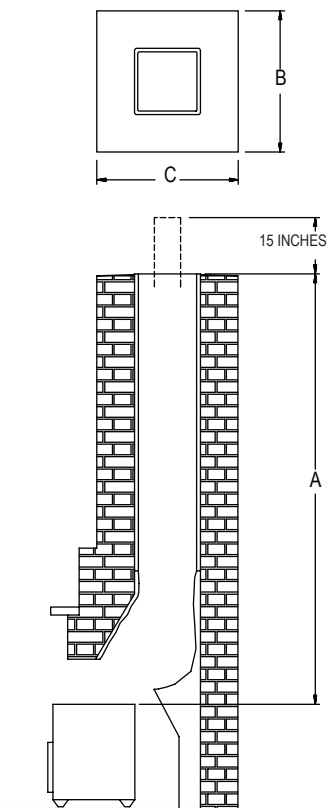


Figure 25

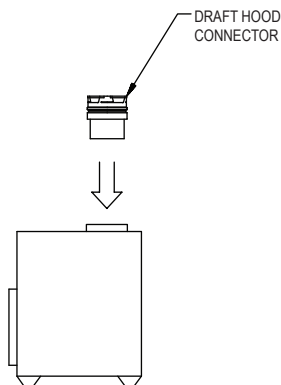


Figure 26

the appliance manufacturer for clarification. Place the appliance out in front of the fire area, as shown in **Figure 27**, and install the Draft Hood Connector, or other device in accordance with the appliance instructions. The Flex Pipe Coupling may be able to attach directly to the appliance.

(d). Flex Pipe Assembly. Assemble first Rigid Pipe Section to the Flex Pipe, insuring that the “UP” arrows are in fact, pointing up. Push the sections together and twist to lock. Screws are not required, however if you desire to use them, use #8 sheet metal screws 1/4-inch long, being careful to not penetrate the inner liner. Repeat this process for the remainder of the Pipe Sections, and lower the assembly down the chimney. Lower it below it’s normal position as shown in **Figure 28**.

(e). Position and Connect Fireplace. Push the gas fireplace towards the firebox, and connect the Flex Pipe female coupling to the appliance, or to the appropriate connector as specified by the appliance manufacturer. If insufficient space is available between the top of the appliance, and the fireplace opening, an access opening in the opposite side of the masonry chimney may be necessary. Position the gas appliance on it’s final location, again complying with the manufacturer’s instructions in regards to location. Install any shields or covers at this time.

(f). Adjust Height. Go to the top of the chimney and pull the vent system up to its desired height. In most cases, this will be 15 inches above the masonry surface. Make a mark on the Pipe Section even with the top of the masonry surface. If the top of the pipe is near a steep roof (more than 7/12 pitch), use the height as stated in **Table 2**.

(g). Flashing. Bend and trim the base of the Tall Cone Flashing so it fits onto the top of the masonry chimney. Use masonry anchors and

non-hardening sealant to secure the flashing to the masonry (**Figure 28**).

(h). Storm Collar. Slide the Storm Collar over the pipe down to top of the Flashing. Secure the Storm Collar in place with at least (3) 1/4" sheet metal screws (**Figure 29**). Do not penetrate the inner liner. The Storm Collar and Flashing will support the weight of the vent assembly. Use non-hardening sealant around the top of Storm Collar to make a weatherproof seal.

(i). Termination Cap. Install the Termination Cap as shown in **Figure 28**. This concludes the procedures for installing a gas fireplace in an existing masonry fireplace. Conduct a final inspection of the system, and verify that you have complied with the manufacturer's installation instructions.

4. Gas Appliance Venting Into the Side Wall of a Masonry Chimney.

(a). Locate Appliance. Set the appliance in its desired position, and mark the center of the hole where the lateral Pipe Section is to pierce the masonry chimney. Ensure the manufacturer's requirements have been

followed, particularly in regards to distances from combustible surfaces. Refer to **Figure 30**.

(b). Hole in Masonry. Move the appliance aside, and break out the masonry, forming a hole large enough for the Pipe Section to get through, and also large enough to reach through and hold the Tee, while connecting the horizontal Pipe Section. An alternate procedure is to make the hole only large enough for the Pipe Section to pass through, and construct an access gate on the other side of the masonry chimney. Do not mortar directly to the pipe, but use a Mortar Sleeve instead.

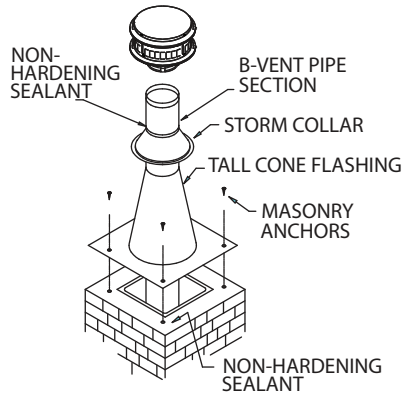


Figure 28

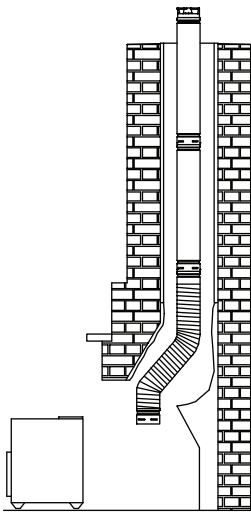


Figure 27

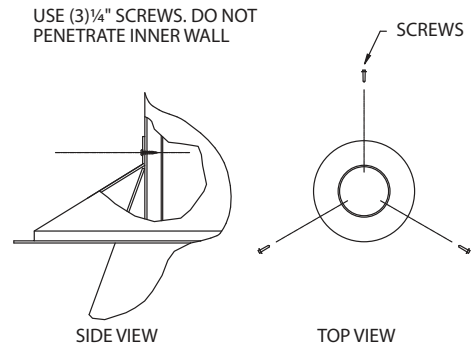


Figure 29

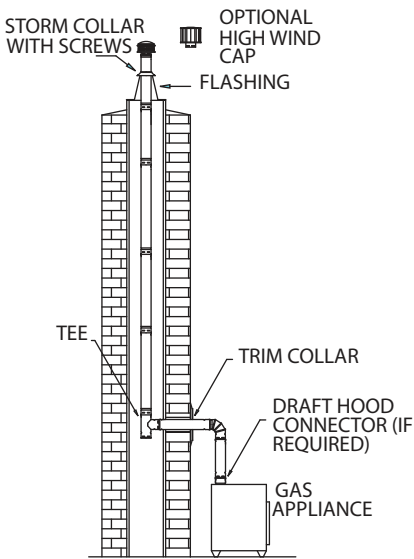


Figure 30

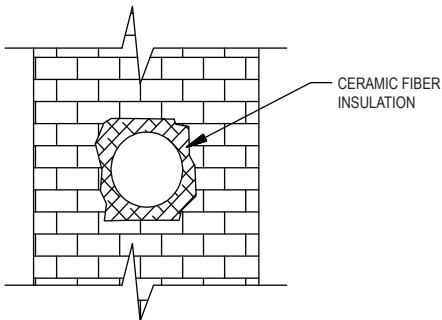


Figure 31

(c). **Tee.** A Tee is installed at the bottom end of the assembled vertical Pipe Sections, as shown in **Figure 30**. The Tee has a removable Tee Cap at the bottom, for cleaning and condensate removal. If the configuration of the building permits it, a clean-out access gate is recommended.

(d). **Vertical Pipe Sections.** Run the assembled vertical Pipe Sections (with the Tee attached to the bottom), down the chimney, until the horizontal branch of the Tee is **opposite the hole in the masonry.**

(e). **Adjust Height.** Hold the assembled Pipe Sections in this position, and make a mark even with the top surface of the masonry chimney. The vertical Pipe Sections should protrude 12 inches (in most cases) above this mark. If the top of the pipe will be near a steep roof (more than 7/12 pitch), use the height as stated in **Table 2**.

(f). **Flashing.** Bend and trim the base of the Tall Cone Flashing so it fits onto the top of the masonry chimney. Use masonry anchors and non-hardening sealant to secure the flashing to the masonry (**Figure 28**).

(g). **Storm Collar.** Slide the Storm Collar over the pipe down to top of the Flashing. Secure the Storm Collar in place with at least (3) 1/4" sheet metal screws (**Figure 29**). Do not penetrate the inner liner. The Storm Collar and Flashing will support the weight of the vent assembly. Use non-hardening sealant around the top of Storm Collar to make a weatherproof seal.

(h). **Horizontal Pipe Section(s).** Run the horizontal Pipe Section(s) through the hole in the masonry, and connect it firmly to the Tee, either by reaching through the hole, and holding the Tee while twisting the Pipe Section, or by holding the Tee through the access door while someone twist-locks the Pipe Section to it. Use an Adjustable Pipe Length as needed

to obtain a specific location for the appliance. Make a mark on the horizontal Pipe Section flush with the vertical face of the masonry, for referencing the vertical position. Slip a Pipe Collar over the horizontal Pipe Section and install the remaining fittings as shown in Figure 30. A minimum of 12 inches of connector rise is required.

(j). Insulation. Pull the Pipe Collar towards the 90° Elbow. Fill in the gap between the masonry and the horizontal Pipe Section with ceramic fiber insulation, as shown in **Figure 31**. The filling may be faced off with grout, if desired. Push the Pipe Collar back flush with the masonry. Make any final adjustments on the Adjustable Length Pipe (if used), and tighten the clamping bolts.

TROUBLESHOOTING

1. Purpose. This section is intended as a general maintenance and troubleshooting guide, and as such, cannot encompass all configurations or vent designs. For problems encountered which are beyond the scope of this sheet, contact your DuraVent Dealer, Distributor, or DuraVent's Engineering Department. It is imperative that the one-inch clearance (air space) defined in these instructions be maintained. In most cases, a one-inch minimum clearance must be maintained to combustibles. The only exceptions are 4-inch, 5-inch and 6-inch Oval B-vent which are installed within stud walls. Oval B-vent and BW Vent are the subject of a separate section of these instructions. For Oval B-vent,, the clearances are established by the listed Firestop Spacers described in the instructions for Oval B-Vent.

2. Appliance. Read the appliance installation instructions carefully, ensuring that the prescribed clearances are met, and that it is a Category I appliance.

3. Spillage. Spillage from an appliance draft hood may cause condensation on windows, or odors that the occupant may notice. Spillage may be caused by an incorrectly sized vent system, blockage of the vent system, or a downdraft in the vent. Other causes are: excessive lateral runs, too many elbows, improper pitch to lateral runs (a minimum of 1/4 inch per foot of run is correct), fans or ventilation systems in the same general area as the gas appliance, or wind conditions at the vent cap.

4. Blockage. Check the system for blockage by removing the cap, and looking down into the vent with a flashlight. Check for bird nests, debris, rodents, insects, or other obstructions. If nothing is found, inspect the entire system for physical damage.

5. Downdraft. Downdrafts are generally caused by the system's termination being too close to an adjacent wall, parapet, or other structure. If the cap is within eight feet of such an obstruction, it must also be at least two feet above it. Also ensure that the top is at the height prescribed for your roof pitch in **Table 2**. Inadequate combustion air is also a major cause of downdraft problems. Appliances like clothes dryers or other exhausting appliances in the same utility room can cause downdraft problems.

6. Condensate/Corrosion. Continuous condensate can cause corrosion (rusting) of vents, tops, appliance draft hoods, and other components of the system, as well as the inside of the appliance. This situation can be extremely dangerous, and corrective action must be taken immediately. Common causes of corrosion are listed below: If in doubt call a professional to inspect the vent.

(a) If the vent system is located in an area where spray cans or solvents are used extensively, (laundry areas, or paint shops,

for example), the halogenated compounds get into the combustion air. When they are burned, they form compounds that cause corrosion. The corrective action in this case, is to isolate the appliance, and get the air supply from outside, or an uncontaminated area.

(b) Condensate may be caused by incorrect sizing of the vent system. Follow the procedures in the various sizing publications to obtain the correct sizes for connectors and vents. Other causes are: excessive lateral runs, too many elbows, cold attics and crawl spaces, and large areas of the exterior portions of the venting system exposed to cold weather. As a general rule, laterals should be held to a minimum, and be no longer than 75% of the vertical height of the system. Condensate may initially appear as beads on the outside of the connector or vent.

7. Construction. Laterals, offsets, and vertical components should be securely supported with wall straps, as previously described. Components of the vent which are in occupied areas should be enclosed to prevent accidental contact and damage to the vent system. Ensure that insulation, building materials, or debris do not extend into the required clearance spaces. In cold climates, the exterior portions of the vent should be enclosed in a chase. Outside portions of the vent system with may be painted with high temperature paint to help prevent rusting and corrosion on the exterior surfaces.

MAINTENANCE

1. An annual inspection is required to maintain warranty of your DuraVent B-Vent system. You will need to inspect the Cap, Vent Pipe, Connector Pipe, and the connection to the appliance.
2. Verify that the sealant around the Flashing and Storm Collar is intact. Reseal as needed. Remove Cap. Hold Cap by the collar only, and unlock by twisting counterclockwise, and then pull up. Grabbing the Cap by the outer edge or top can cause damage to the Cap.
3. Inspect Cap for any physical damage or damage from corrosion. Look for any foreign material inside the cap or vent. (Example: bird's nest, leaves, etc.)
4. Shine a light down inside of the vent pipe. Look for any evidence of damage, corrosion or excessive condensation. Also, look for any disconnected sections of the vent pipe or connector pipe. Refer to the installation instructions to reconnect pipe sections. If pipe sections are damaged or corroded, replace immediately!
5. Replace Cap by grabbing cap (by collar only), and slide onto pipe section and twist-locking (clockwise).
6. Inspect appliance connector and make sure that the vent is securely connected to the appliance.
7. Damaged or corroded parts should be replaced immediately! Failure to do so can lead to an extremely hazardous situation!
8. Follow your appliance manufacturer's recommended instructions for inspection your appliance.

OVAL B VENT, TYPE BW

INSTALLATION NOTES

DuraVent Type B Gas Vent shall be used to vent only approved gas appliances with draft hoods and other Category I gas appliances listed for use with Type B Gas Vents:

- Water Heaters
- Space Heaters
- Warm Air Furnaces
- Duct Furnaces
- Room Heaters
- Unit Heaters
- Hot Water Boilers
- Steam Boilers
- Floor Furnaces
- Gas Fireplaces
- Attic Furnaces

Type B gas vents shall not be used for venting incinerators, conversion burners, combination gas/oil appliances, and listed category II, III, and IV gas appliances (NFPA 211).

These vents shall be installed in accordance with their listing as detailed in these instructions, and the requirements of the local authority having jurisdiction.

For more complex installations, or multiple appliance installations, refer to the “Sizing Handbook”, which can be furnished by DuraVent dealers, or can be obtained by calling 800-835-4429.

Consult the appliance manufacturer’s installation instructions to obtain the combustion and ventilation air requirements for the appliance. Additional information is provided in the National Fuel Gas Code

(NFPA 54), as well as the “Sizing Handbook” furnished by DuraVent.

Use only listed DuraVent vent products.. Do not mix and match with other manufacturer’s vents or improvised solutions. Do not install damaged vents. Whenever possible, the vent should be continued straight out through the roof. If it is necessary to make offsets in the attic space, use 45° elbows, rather than horizontal run. Use Wall Straps or metal tape to support offsets.

IN CANADA: Only components marked “FOR EXTERIOR USE ONLY” shall be used above the roofline.

Refer to **Table 1** on the next page to determine the height above the roof the vent cap must terminate. A listed DuraVent top must be used to terminate the vent. It is locked to the top section of pipe, and gives protection against the entrance of rain, snow, debris, and birds. The vent cap should terminate 2 feet higher than an adjacent building or wall, if it is within 8 feet of the obstruction.

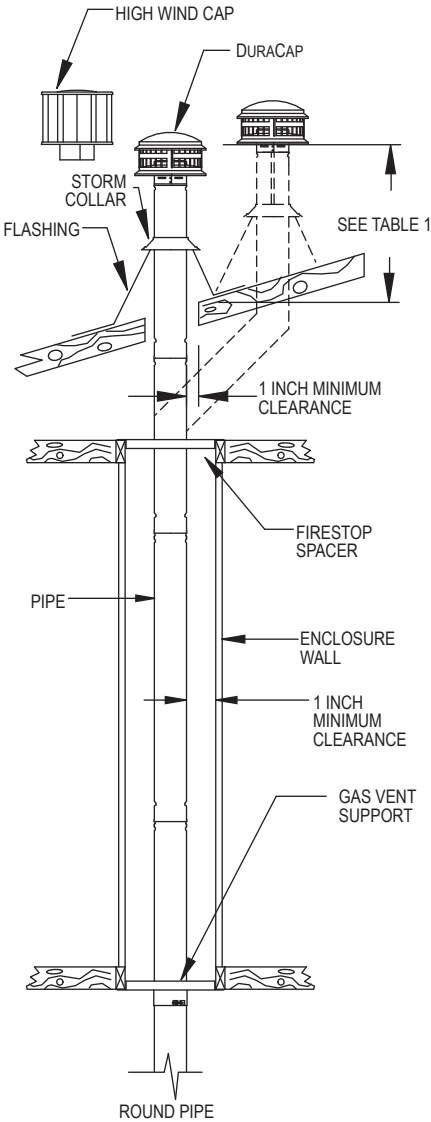


TABLE 1	
Roof Pitch	Minimum Height*
FLAT TO 7/12	1.0
OVER 7/12 TO 8/12	1.5
OVER 8/12 TO 9/12	2.0
OVER 9/12 TO 10/12	2.5
OVER 10/12 TO 11/12	3.25
OVER 11/12 TO 12/12	4.0
OVER 12/12 TO 14/12	5.0
OVER 14/12 TO 16/12	6.0
OVER 16/12 TO 18/12	7.0
OVER 18/12 TO 20/12	7.5
OVER 20/12 TO 21/12	8.0
*THIS REQUIREMENT COVERS MOST INSTALLATION	

Gas venting systems using vent caps listed by underwriters' may terminate in accordance with this vent termination table.

Where the vent passes through the roof, the roof sheathing is cut away to provide a minimum clearance of 1 inch from the vent pipe. Straight lengths of pipe are run up about a foot above the roof. A roof flashing is placed down over the pipe, and adjusted so the flashing fits tightly against the roof, with the vent pipe held in a position maintaining the 1-inch minimum clearance from combustibles. The flashing is then nailed to the roof. A non-hardening sealant may be used around the edges of the flashing base where it meets the roof. Non-hardening sealant is placed around the joint between the flashing and the vertical vent pipe, and the storm collar is then placed over this joint to make a watertight seal. The storm collar serves as a counter-flashing to give additional protection.

A gas vent support or firestop spacer must be provided where the vent passes through the ceiling. The ceiling opening is framed, using the same sized lumber as the existing joists, to fit around the raised edge of the gas vent support, which is pushed up into the ceiling from below. The hanger straps are nailed to the framing using 1 1/2-inch box nails to hold the gas vent support firmly, and the clamp is then tightened around the vent pipe. Firestop spacers must be utilized in multistory buildings at each level where the vent passes through a floor.

Sections of pipe are connected to each other by pushing them firmly together and twisting. Screws are not required. If screws are desired, for 3- to 6-inch diameter pipe, use 1/4-inch sheet metal screws. For larger diameters up through 16 inches, use 3/8-inch sheet metal screws. For 18-inch and greater diameters, use 3/8-inch sheet metal screws. Under no circumstances, penetrate the inner liner with screws.

Any portions of the vent assembly that extend through accessible or occupied spaces must be enclosed with an enclosure that is at least 1-inch away from vent pipe.

4-INCH OVAL GAS VENT FOR INSTALLATION IN 2" X 4" STUD WALLS

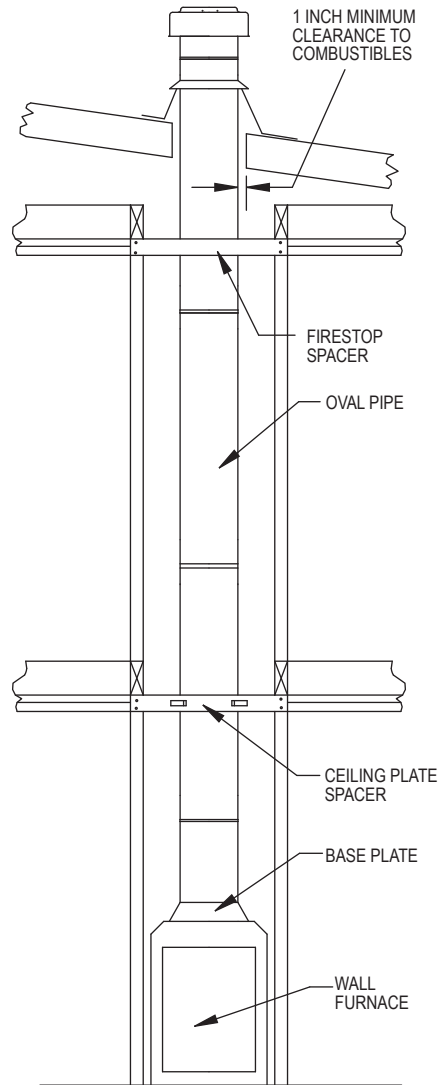
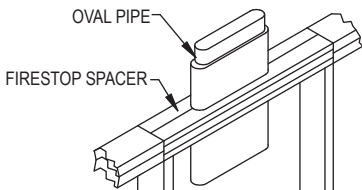
MH6375 CATEGORY I APPLIANCES ONLY

Gas vent shall extend at least 2 feet above the highest point where it passes through the roof, and at least 2 feet higher than any portion of the building within 8 feet. Install oval flashing, storm collar, and oval vent cap.

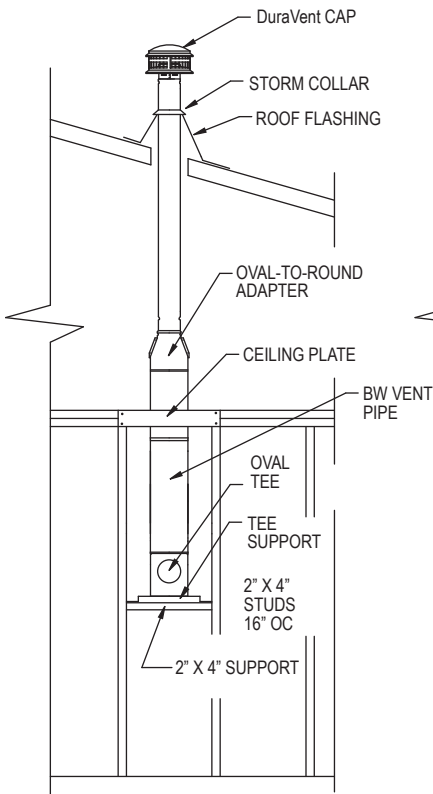
Where pipe passes through the roof, maintain 1-inch minimum clearance to all combustibles. Attach base plate to wall furnace. Firestop spacers shall be installed as shown, on all floors other than the first floor. Use ceiling plate spacers at this level.

1. Saw out portion of header between studs and install one firestop spacer.
2. Nail the second firestop spacer in position, after oval pipe is in place.
3. All floors above to be installed in the same manner.
4. Maximum BTU input:
Single story - 85,000 BTU
Multistory - 65,000 BTU

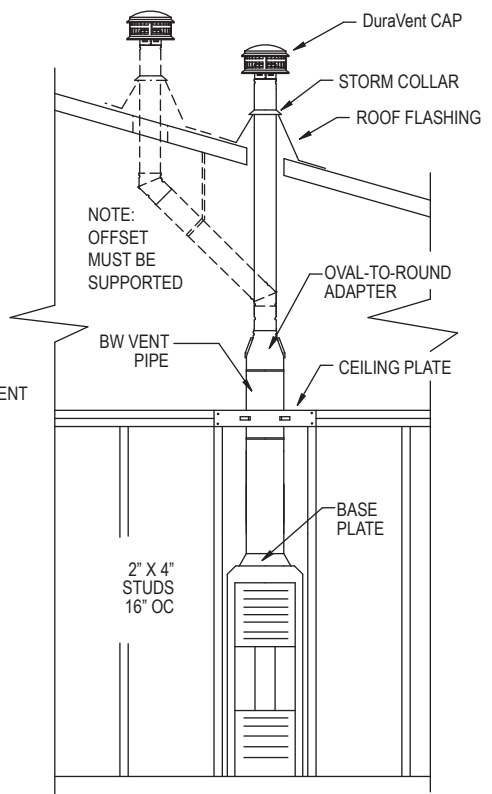
To assemble, align the two pieces, and push them together until they click.



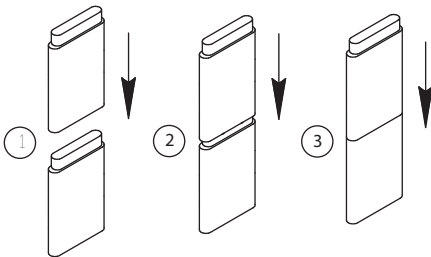
Use only vents labeled "For Exterior Use Only", above roofline. (Canada Only)



Type BW 2" x 4" Oval Installation



Type BW 2" x 4" Installation



To assemble, align the two pieces, and push them together until they click.

5-INCH OVAL GAS VENT FOR INSTALLATION IN 2" X 4" STUD WALLS

MH6375 CATEGORY I APPLIANCES ONLY

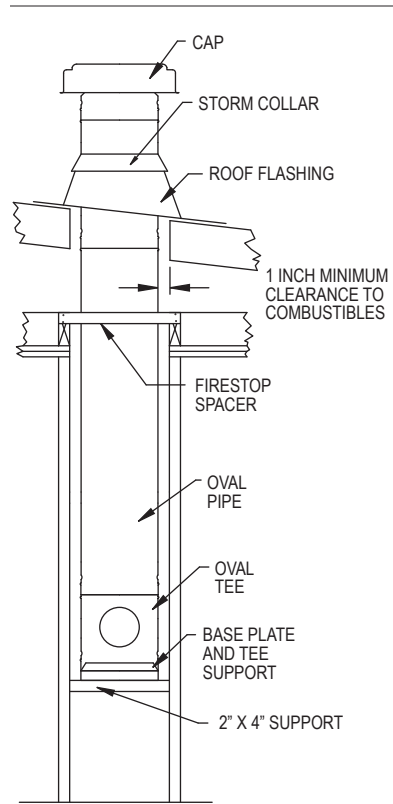
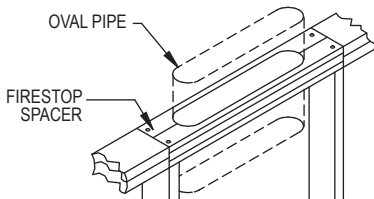
Where pipe passes through the roof, maintain 1-inch minimum clearance to all combustible materials.

Install oval flashing, storm collar, and oval vent cap.

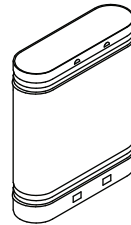
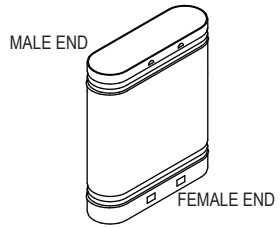
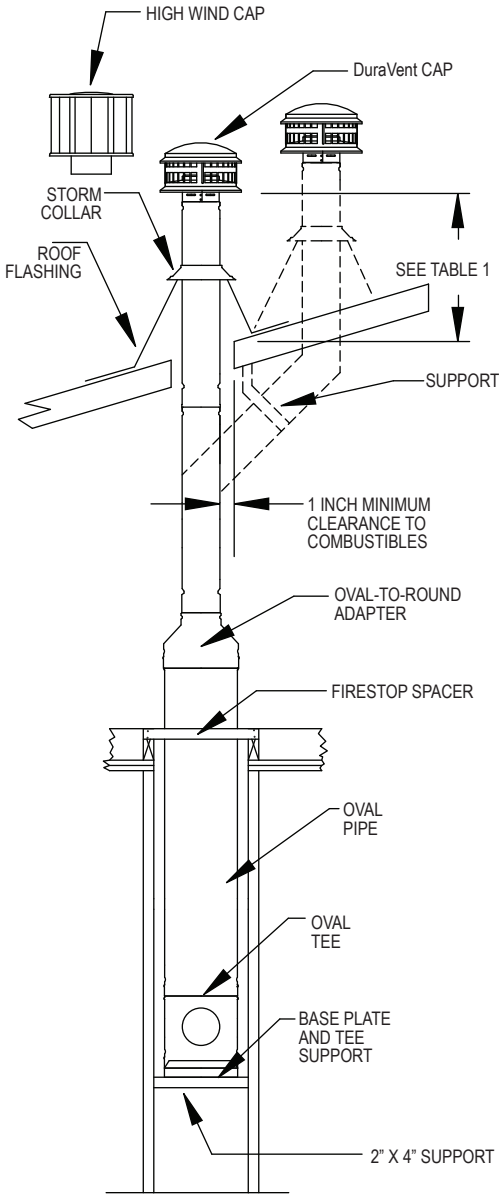
Gas vent shall extend at least 2 feet above the highest point where it passes through the roof, and at least 2-feet higher than any portion of the building within 8 feet.

Attach base plate to 2" x 4" support. Firestop spacers shall be installed as shown on all floors.

1. Saw out portion of header between studs and install one firestop spacer.
2. Nail the second firestop spacer in position, after oval pipe is in place.
3. Additional floors above are installed in the same manner.



Use only vents labeled "For Exterior Use Only", above roofline. (Canada Only)



To assemble, align the two pieces, and push together until they click.

Use only vents labeled "For Exterior Use Only", above roofline. (Canada Only)

Diagram showing transition from 5" oval to round vent pipe, and optional offset. Note that offsets must be supported

6-INCH OVAL GAS VENT FOR INSTALLATION IN 2" X 6" STUD WALLS

MH6375 CATEGORY I APPLIANCES ONLY

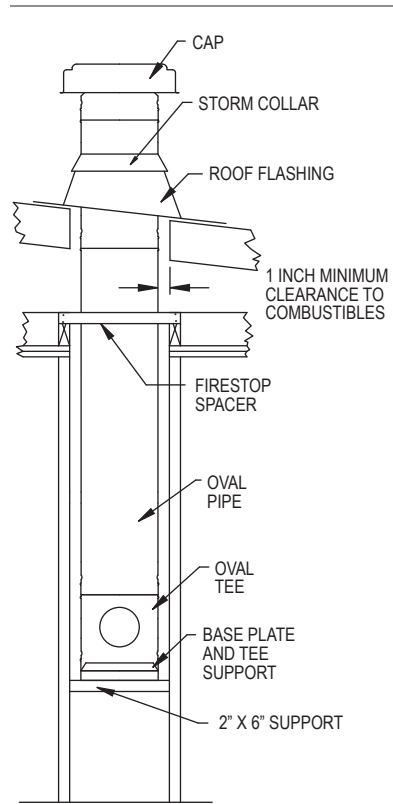
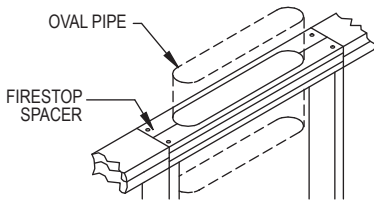
Ensure at least 1 inch clearance to all combustibles, including the area the pipe passes through the roof.

Install oval flashing, storm collar, and oval vent cap.

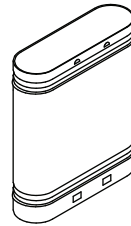
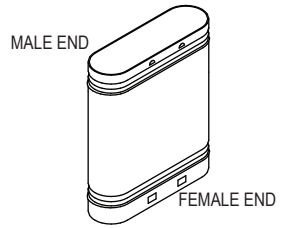
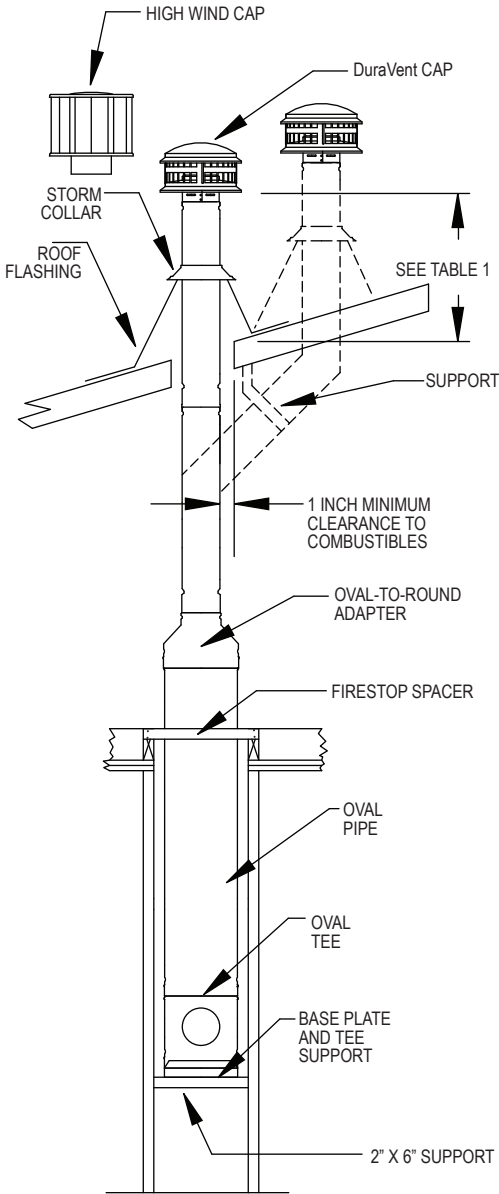
Gas vent shall extend at least 2 feet above the roof, and at least 2 feet higher than any portion of the building within 2 feet.

Attach base plate to 2" x 6" support. Firestop spacers shall be installed as shown on all floors.

1. Saw out portion of header between studs and install one firestop spacer.
2. Nail the second firestop spacer in position, after oval pipe is in place.
3. Additional floors above are installed in the same manner.



Use only vents labeled "For Exterior Use Only", above roofline. (Canada Only)



To assemble, align the two pieces, and push together until they click.

Use only vents labeled “For Exterior Use Only”, above roofline. (Canada Only)

Diagram showing transition from 6” oval to round vent pipe, and optional offset. Note that offsets must be supported