

# Empire Comfort Systems, Inc.

## DVVK-4FV Direct Vent Vertical Termination Kit

### Installation Instructions

This termination kit can only be used with Empire Comfort Systems direct vent fireplaces listed for use with DVVK-4FV Vertical Flex Vent Kit. Please review the instructions packaged with your fireplace and verify the fireplace model number. Check that this flex vent system is listed for use with your fireplace model prior to starting the installation.

**This vent kit may be installed as an OEM installation in a manufactured home (USA only) or mobile home and must be installed in accordance with the manufacturer's instructions and the manufactured home construction and safety standard, Title 24 CFR, Part 3280 or Standard for Installation in Mobile Homes, CAN/CSA Z240 MH.**

#### CAUTION

All Fireplaces listed for use with the DVVK-4FV will operate safely when installed in accordance with this instruction manual. Read all instructions before starting installation, then follow these instructions carefully to maximize fireplace performance and safety. Report damaged parts to your dealer.

#### WARNING

Any common venting of the gas appliance using the DV vent kit with other gas appliances is not allowed. Do not connect this appliance to a chimney flue servicing a separate solid fuel-burning appliance.

#### WARNING

**Failure to follow these instructions may create a possible fire hazard and will void the warranty.**

#### WARNING

Always maintain minimum clearances around vent systems. The minimum clearance to combustibles for horizontal runs of vent pipe is 3 inches from the top, and 1 inch from the sides and bottom of the vent system. Do not pack the open air spaces around the fireplace or flue with insulation or other materials. Any horizontal run must have a 1/4" rise for every one (1) foot of run towards the vent termination. The vent above the roof must terminate vertically.

#### WARNING

**Contact your Local Building and Fire Officials about restrictions and installation inspections in your area.**

## IMPORTANT SAFETY INFORMATION

- The vertical termination cap MUST be vented directly to the outside. The termination kit MUST NEVER be connected to a chimney flue(s) servicing a separate solid-fuel burning appliance or any other appliances.
- Termination cap MUST NOT be mounted horizontally.
- The flexible vent pipe cannot be intermingled with any of the rigid vent pipe section(s). DO NOT connect two sections of flexible vent pipe together to achieve a longer length without the use of approved connectors.
- The installation must conform with local codes or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 (in the United States) or with the current installation code CAN/CGA B149 (in Canada).
- Only Direct Vent fireplaces approved for use with Empire Comfort Systems, Inc. DVVK-4FV termination kit shall be used. See PARTS LIST/ILLUSTRATIONS section for vent component identification.
- Horizontal vent runs must be supported every 2 feet using wall straps. Vertical runs must be supported every 3 feet using wall straps. Slip wall straps loosely on to pipe. Attach installer provided straps to framing members using nails or screws.
- The fireplace and venting system should be inspected before initial use and at least annually by a qualified field service person. Inspect the external vent cap on a regular basis to make sure that no debris is interfering with the airflow. Inspect entire venting system to ensure proper function.
- Please refer to the fireplace instructions for information on Termination Cap clearances.

## **PRE-INSTALLATION INFORMATION:**

### **Items Required For Installation:**

<b>Tools</b>	<b>Building Supplies</b>
Phillips Screwdriver Hammer Saw and/or saber saw Level Measuring Tape Electric Drill and Bits Pliers Square Tin Snips	Framing Materials Wall Finishing Materials Caulking Material (Noncombustible) Support Strap supplies

### **Before You Start:**

Plan your installation. Read these instructions and the fireplace installation manual before installing unit and vent system. Set unit in place and survey how best to vent the unit. After the vent configuration has been decided, stretch the flex pipe components out, then trim off what will not be needed.

Refer to the fireplace installation manual for information on vertical venting requirements. The maximum length of vent when using flex venting is 35 feet total. Contact your dealer or distributor for information on flex vent extension kits that may be added to the DVVK-4FV kit, in order to terminate up to 35 feet. Available extension kits include the DVEK-10 (10' Flex) or the DVEK-25 (25' Flex) extension kits. The extension kits include connection hardware.

### **Installation of the Vertical Flex Termination Kit**

#### **WARNING**

Ensure that the venting system exits the structure through the roof and does not terminate less than 12 inches (305mm) above the roof.

#### **WARNING**

Refer to your fireplace homeowner's manual for the minimum and maximum venting requirement of your fireplace prior to installation. Failure to do so may cause a fire hazard.

#### **WARNING**

This flexible pipe termination kit is **ONLY** for vertical terminations.

#### **WARNING**

Any horizontal run section must have a 1/4" rise for every one (1) foot of run towards the vent termination. Never allow the vent pipe to run downward. This could cause high temperatures and may present a fire hazard. This vertical kit may incorporate two (2) 90 degree bends, but must terminate vertically.

#### **CAUTION**

This flex vent kit can be installed either vertically or horizontally off of Direct Vent Series fireplaces but must only terminate vertically.

#### **WARNING**

Because of sharp edges, always use gloves when handling the flex vent components.

#### **CAUTION**

Vent connections should overlap a minimum of 1" for proper sealing.

#### **CAUTION**

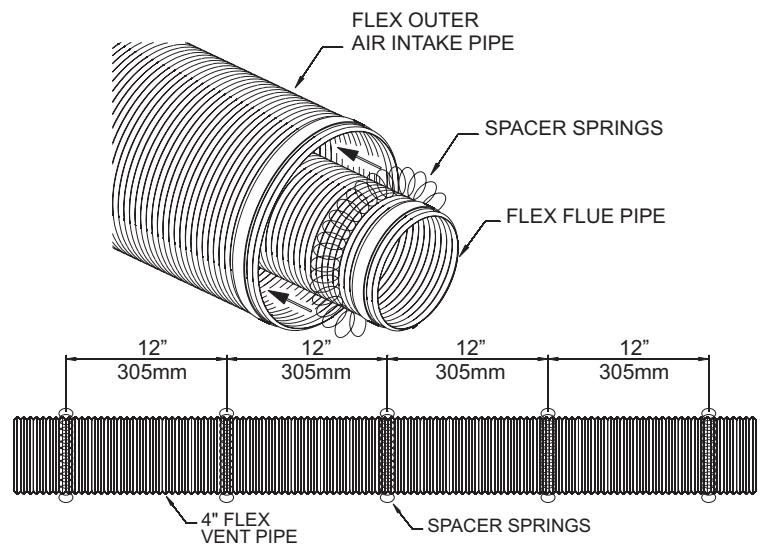
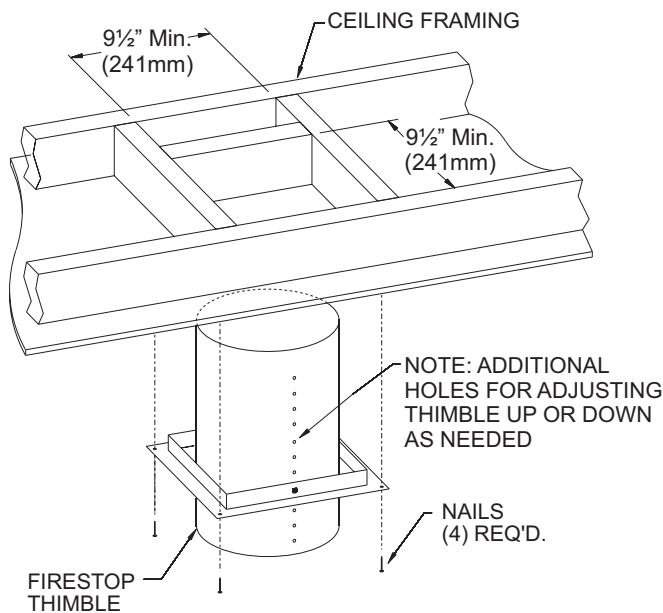
Always stretch and secure venting with metal strapping secured with nails (nails and strapping not supplied) to ensure that the flex vent runs remain true.

#### **INSTALLATION NOTE:**

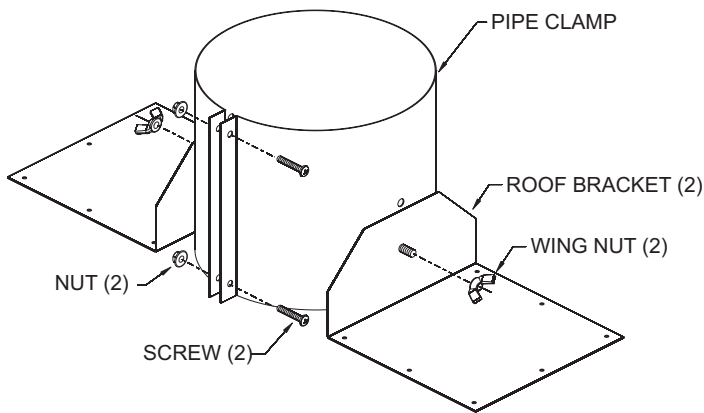
If space permits, it is generally easier to attach venting in the top vent configuration.

## Step-By-Step Installation For Flex DV Kit

1. Unpack vent components and check all items for shipping damage.
2. For this venting system to operate as designed it is dependent on the use of all parts and procedures detailed in these instructions. Failure to follow these instructions may potentially affect the performance of this vent system and the attached appliance.
3. As per the fireplace manufacturer's instructions, replace the existing 6 5/8" diameter fireplace vent adapter with the 7" diameter flex vent fireplace adapter included in the vent kit. Install the adapter collar with the screws removed from the standard fireplace collar. Refer to the fireplace manual for additional information on the vent collar removal and installation.
4. Once the fireplace location has been determined, mark the ceiling where the flex vent will pass through. Cut an opening for installation of the firestop thimble assembly. The opening must measure a minimum of 9-1/2" x 9-1/2" square. See **Figure 1**.
5. Next, determine the location for the cutout in the roof opening. This opening must be large enough to provide a minimum 1" air space clearance from the vertical vent pipe to any combustible framing.
6. Install the Firestop/Thimble assembly to the framed opening in the ceiling using common nails or screws.  
**Note:** The thimble assembly is adjustable up or down as needed within the firestop. It is also designed with a pivoting firestop for use with 0 - 3/12 pitch cathedral ceilings.
7. To begin vent system assembly, first layout all the vent components on the floor in the order in which they will be assembled.
8. Stretch the 4" diameter inner flex flue and 7" diameter outer flex vent to the maximum length of 6 feet.
9. Install the spring spacers provided around the 4" diameter flex flue at 1 foot intervals, then slide the flue pipe with spacers into the 7" diameter outer flex vent pipe. Make sure the springs are spaced evenly starting at 12 inches from the fireplace collar. See **Figure 2**.

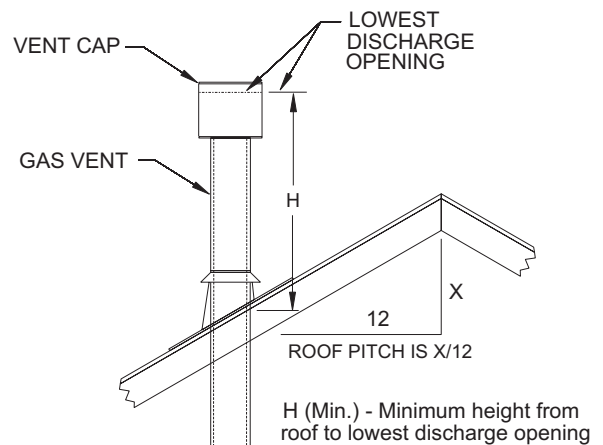


10. With the flex vent assembly and the 48" long hard pipe components laid out on the floor, begin securing these parts together. First, apply a generous bead of silicone sealant to the inside of the 4" diameter flex flue (not the end with the pre-installed connector), then slide the flex flue over the 4" diameter hard pipe flue. Be sure to overlap at least 1-1/4". Secure this connection with a 4" diameter band clamp provided. Be careful not to damage or tear the flex flue when tightening clamp.
11. Repeat the connection process for the outer 7" diameter flex vent to hard pipe connection. Use silicone sealant at this joint also, overlap at least 1-1/4", then secure the joint with the 7" diameter band clamp provided. Be careful not to damage or tear the flex vent pipe when tightening the clamp.
12. While the venting is still on the floor, assemble the roof jack components as shown in Figure 3 and pre-install the roof jack assembly to the hard pipe approximately 18" from the top end of the hard pipe.



**Figure 3**

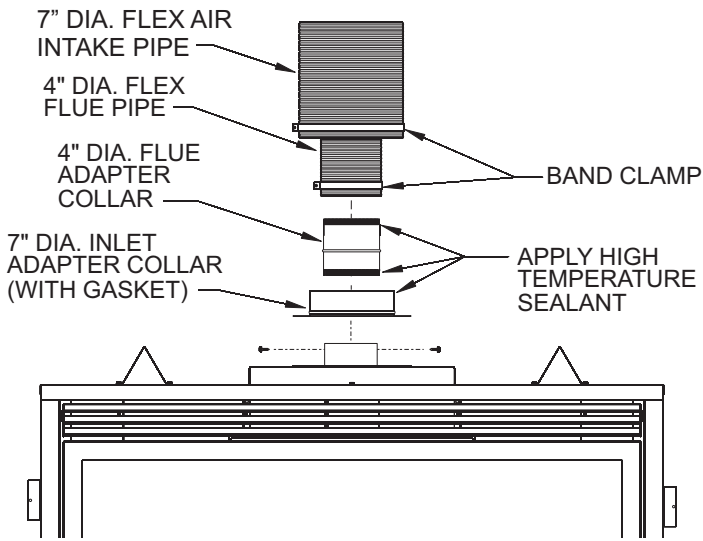
13. Now the pre-assembled vent system may be carried to the roof, then lowered through the roof cutout opening (see step 5). Feed the flex vent end down through the roof opening and firestop thimble assembly installed in step 4.
14. Secure the roof support assembly to the roof sheathing with at least (4) nails/screws through each support bracket. Check that the combustible clearances through the roof framing will maintain at least a 1" clearance from the vent pipe.
15. Determine how high the vent terminal should be located above the roof line based on the roof pitch information shown in Figure 4. Adjust the vent system height by loosening the pre-installed roof support pipe clamp and sliding the vent pipe up or down as pre-determined, then re-tighten the pipe clamp. Install a couple of sheet metal screws through the pipe clamp into the outer hard vent pipe to lock in place.
16. Check to make sure that the bottom end of the flex vent is long enough to reach the fireplace adapter collars. If too long, trim off the extra flex vent not needed.



ROOF PITCH	H (Min.)
Flat to 6/12	12" (305mm)
6/12 to 7/12	15" (381mm)
Over 7/12 to 8/12	18" (457mm)
Over 8/12 to 16/12	24" (610mm)
Over 16/12 to 21/12	36" (914mm)

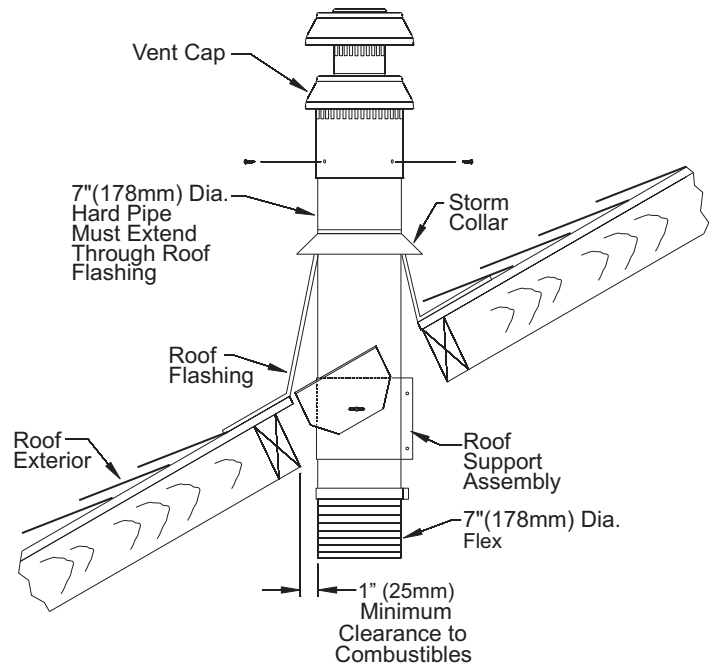
**Figure 4**

17. To attach the vent connections at the fireplace, be sure the 7" diameter adapter collar has been installed per step #3. Apply a bead of silicone sealant to the 4" diameter flex connector, then slide the flex pipe adapter collar into the fireplace flue collar and secure by installing a minimum of two (2) screws through the flue collar and into the adapter. **See Figure 5.**
18. Apply sealant to the 7" diameter adapter collar, slide outer flex vent over the collar, then secure with a 7" diameter band clamp. **See Figure 5.**
19. Once the lower connections are made and the flex pipe is secured with support bands as required (3 foot minimum between supports) then the roof flashing can be installed. **See Figure 6.**
20. Install the roof flashing, and seal using common construction practices.



**Figure 5**

21. An additional storm collar band is provided in kit that may be used as an attic insulation shield. The collar can be installed around the flex pipe (or hard pipe) just above the firestop thimble. This collar will act as a shield to prevent blown insulation from entering the thimble.
22. To complete the vent installation, install the vent termination cap to the top of the hard vent pipe assembly. Mate up the flue and outer telescopes with the hard pipe assembly, then secure by installing a minimum of two (2) sheet metal screws into the overlapped flanges of the cap and pipe.
23. Figure 7 shows a completed installation with components identified and other installation information such as heights and clearance to combustibles.



**Figure 6**

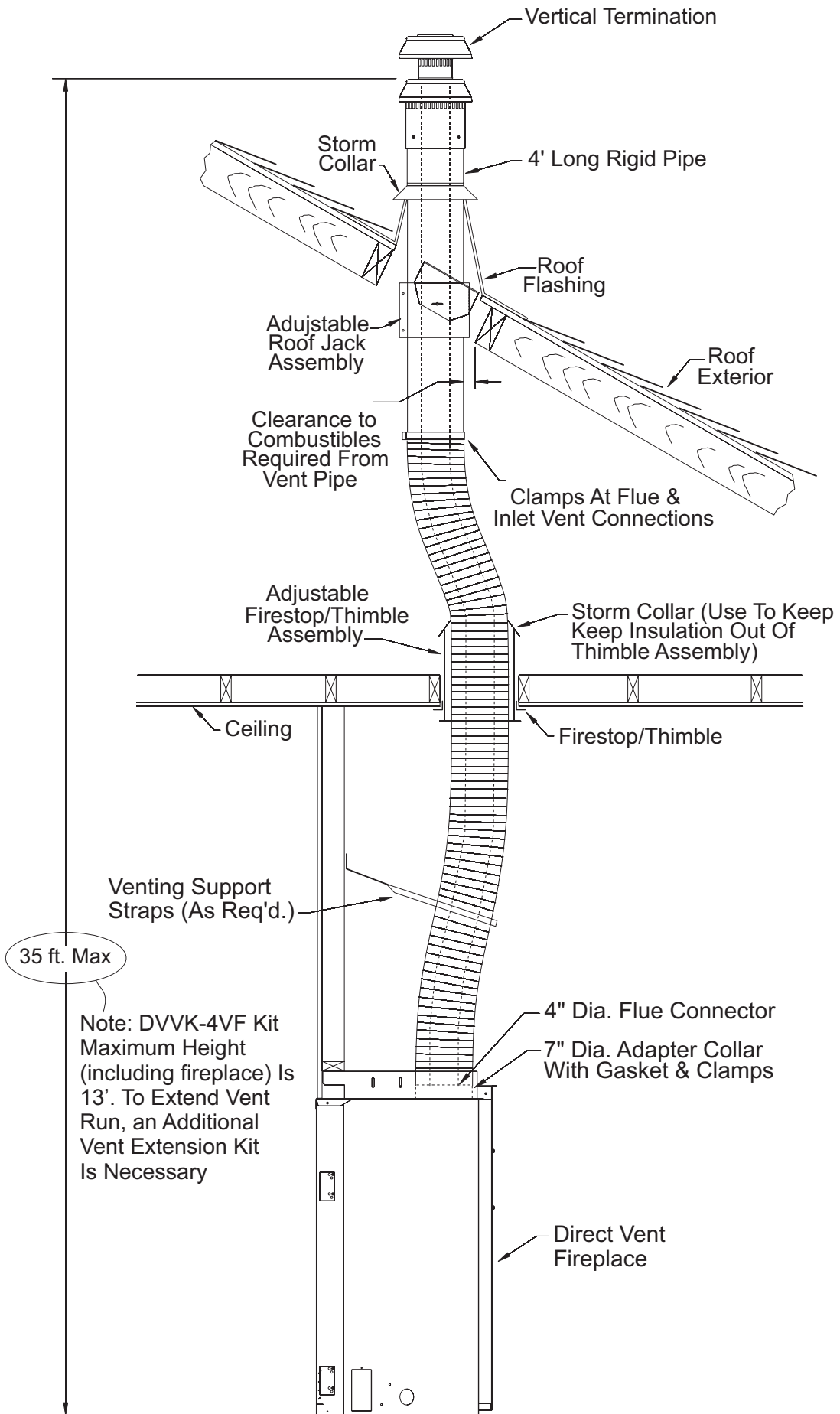
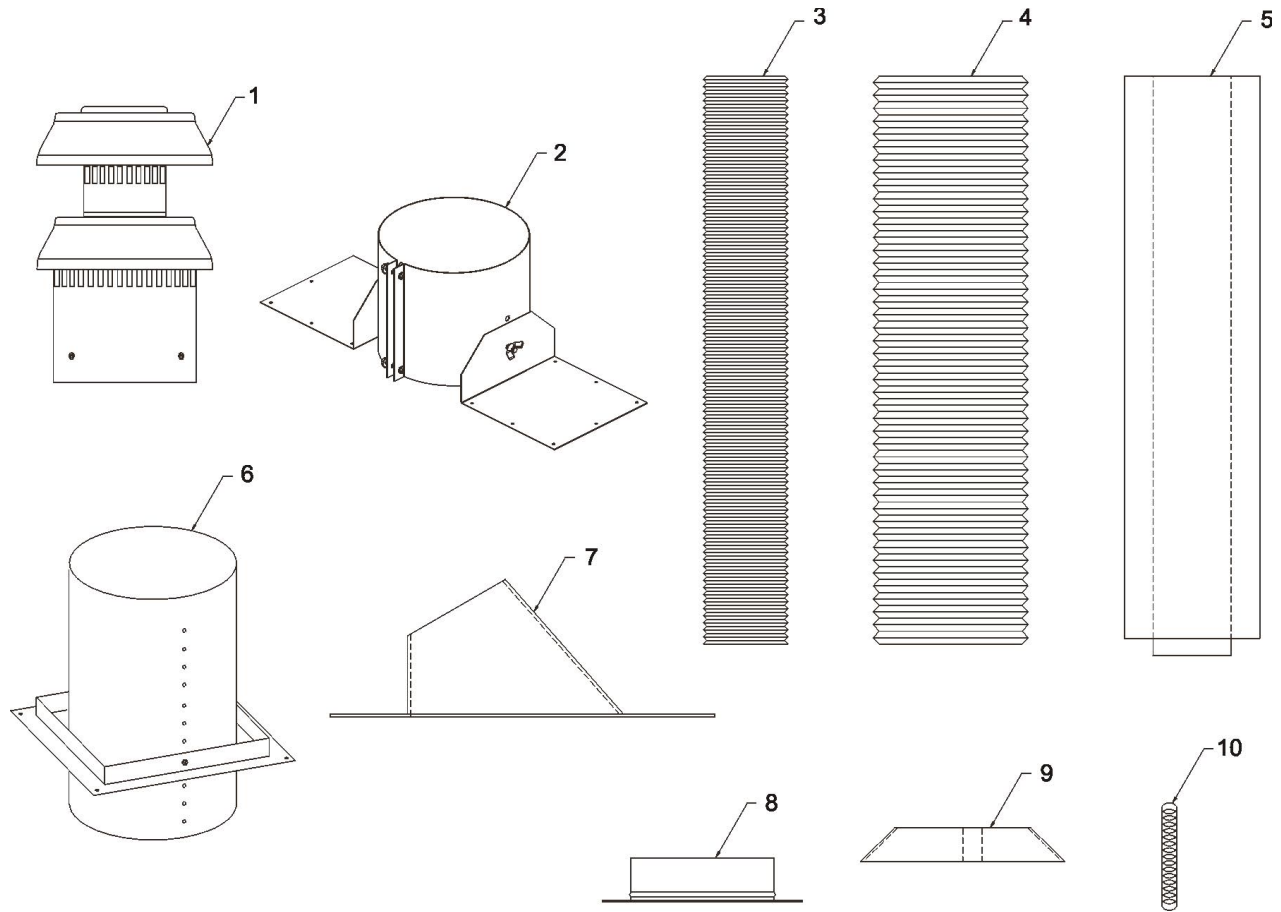


Figure 7

## Vertical Flex Termination Kit



Item Number	Item Description	Repair Part No.	Quantity Supplied
1	4"/7" Vertical Termination Cap	MF100038	1
2	Roof Support Kit	MF100503	1
3	2 Ply Alum Flex 4" Diameter by 6 ft.	MF04ALA2F006	1
4	2 Ply Alum Flex 7" Diameter by 6 ft.	MF07ALA2F006	1
5	4"/7" x 48" Rigid Pipe Assembly	MF100554	1
6	Firestop Thimble Assembly	MF100124	1
7	Roof Flashing (0/12 to 6/12)	MF100091	1
8	7" Flex Adapter Collar with Gasket	MF100524	1
9	7" Storm Collar	MF100147	2
10	Spring Spacers	MF100548	5
N/S	Clamp 4" Diameter	MF100330	2
N/S	Clamp 7" Diameter	MF100534	2
N/S	#8 x 1/2" Self Drilling Screws	N/A	20
N/S	HT Silicone	N/A	1
N/S	#8 x 5/8" Self Drilling Screws	N/A	10



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