INSTALLATION INSTRUCTIONS
HEAT MANAGEMENT SYSTEMS KIT

INSTALLER:
Leave this manual with the appliance.
CONSUMER:
Retain this manual for future reference.

⚠ WARNING

FIRE OR EXPLOSION HAZARD
Failure to follow safety warnings exactly could result in serious injury, death or property damage.

— **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
— **WHAT TO DO IF YOU SMELL GAS**
- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Leave the building immediately.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

— **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

HMFA-1 FORCED AIR HEAT MANAGEMENT SYSTEMS KIT

FOR USE WITH VENT-FREE FIREPLACE MODELS:

GAS-FIRED
UL US
LISTED
UL FILE NO. MH46389

VFLB(36,48,60,72)FP(30,90)(N,P)
WITH HMFA(36,48,60,72)P AND HMFATV

⚠ WARNING

If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or from fuel combustion which can cause death or serious illness.

NATIONAL FIREPLACE INSTITUTE
NFI
CERTIFIED
www.nficertified.org

We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

HMFA FORCED AIR HEAT MANAGEMENT SYSTEM

⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.

TOOLS/SUPPLIES NEEDED FOR HMFA:

- Phillips Screwdriver
- Electric Drill
- Flathead Screwdriver
- 5/16", 3/8" Nut Drivers
- Metal Snips
- Utility Knife
- Flex Vent Kit SDGDFA25

Other miscellaneous tools commonly used for framing & wiring.

HMFA INTRODUCTION

The Forced Air Heat Management system (HMFA) is designed to be installed in conjunction with specific Empire Comfort Systems Fireplaces, to reduce the amount of heat produced during operation of the fireplace. This system includes a variable speed controlled blower that will deliver a desired percentage of the heat produced by the fireplace to the exterior of the building.

CONTENTS OF HMFA:

1. Blower w/Base Assembly (1 ea.)
2. Outer Termination Assembly (1 ea.)
3. 6" Diameter Collar w/Flange (2 ea.)
4. 6" X 6" X 6" “Y” Duct Connector (1 ea.)
5. 6" Diameter Adapter (“Y” to Flex Connection) (1 ea.)
6. Band Clamp (4 ea.)
7. Rheostat (Variable Speed Control) w/Knob (1 ea.)
8. Junction Box w/Cover (1 ea.)
9. Hardware Pack (1 ea.)

NOTE: Flex venting is not included with HMFA kit. Please order the SD6DFA25 Flex Vent Kit which includes 25' of Flex Vent and (2) Band clamps to complete the system installation.

MAKE-UP AIR REQUIREMENT FOR HMFA

When in operation, the HMFA Forced Air Heat Management System will deliver a percentage of heated air from the fireplace to the exterior of the building. Because a certain amount of air will be removed from the building, it must be replaced with fresh make-up air, to prevent negative pressure from building up inside the structure.

Some central furnaces include make-up air dampers. If a make-up air damper is included with the furnace, check the damper for proper function and operation. There are variations in central furnace make-up dampers, therefore, you must check to see if the existing system is compatible. Some systems are designed to operate if a negative pressure is detected inside the building.

Other systems are designed to operate only while the central furnace blower is operating, and would therefore require an additional make-up air damper system be installed.

Make-up Air Dampers are available at local HVAC supply stores or contractors. The Make-up Air Damper shall be sized based on the potential amount of cubic air to be expelled. The HMFA system has the potential of expelling 150 CFM.

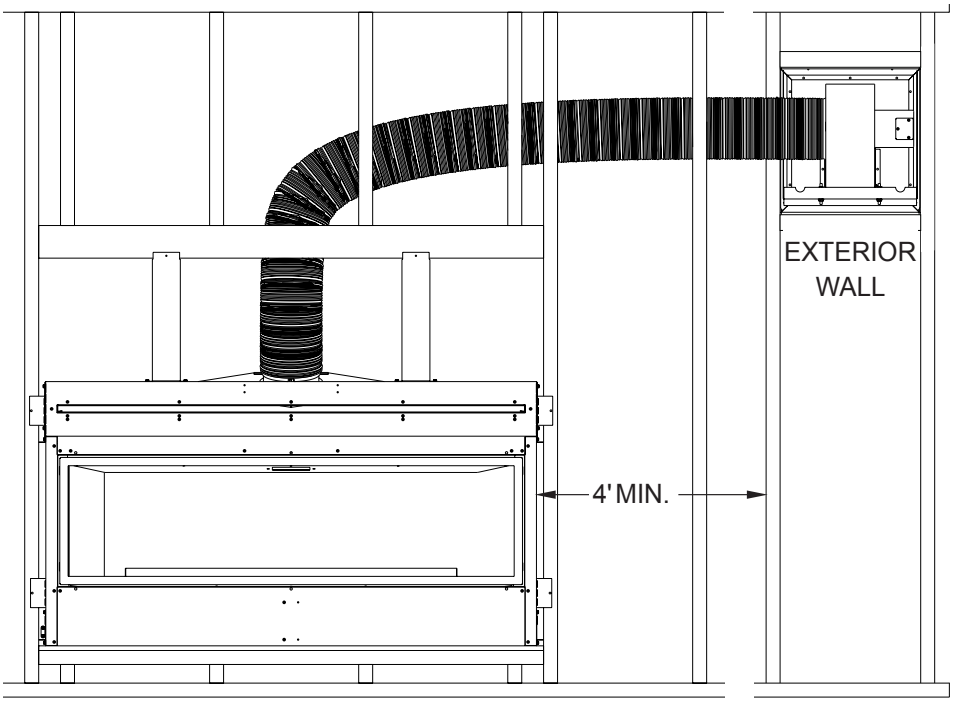
If installing a Make-up Air Damper, it is recommended that it be installed at the opposite end of the building. In addition, installation of the damper at a high level of a vaulted ceiling will help dilute the incoming cold air with the warmer air normally found near the ceiling.

⚠ WARNING

HMFA Blower MUST be mounted on an exterior wall. DO NOT transfer heat to an interior space.

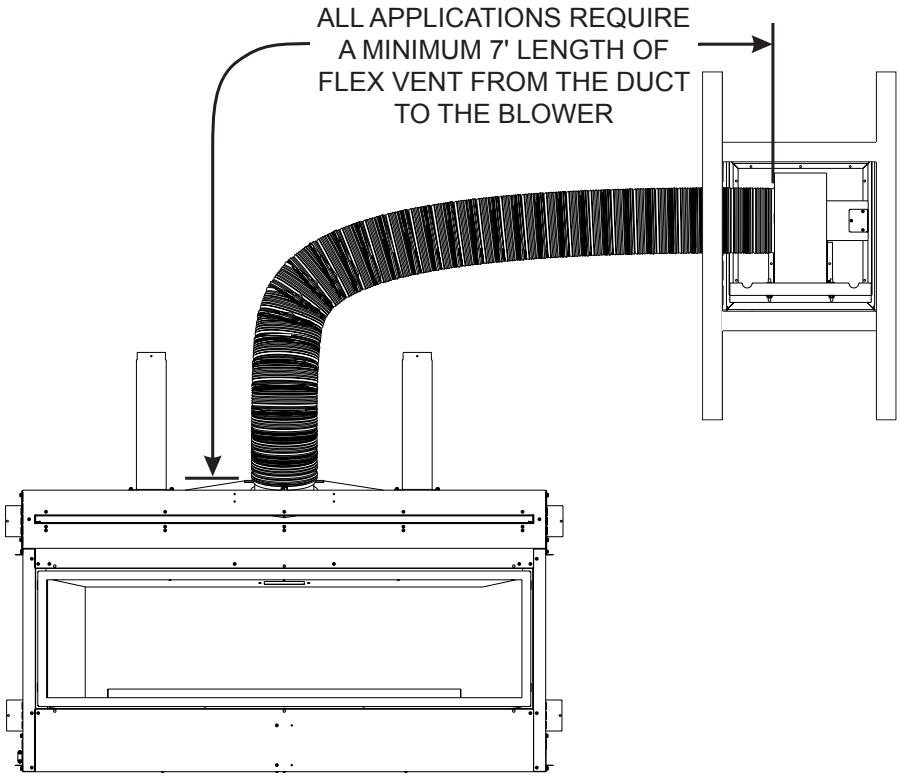
LOCATING THE HEAT MANAGEMENT SYSTEM

1. Determine the location of the HMFA in relationship to the fireplace. Placement of the HMFA blower system in relationship to the fireplace is indicated with minimum framed opening dimensions and vent length requirements as shown in **Figures 1 and 2.**



HMFA Framed Opening Minimum Distance From Fireplace

Figure 1



Minimum Length Of Flex Vent

Figure 2

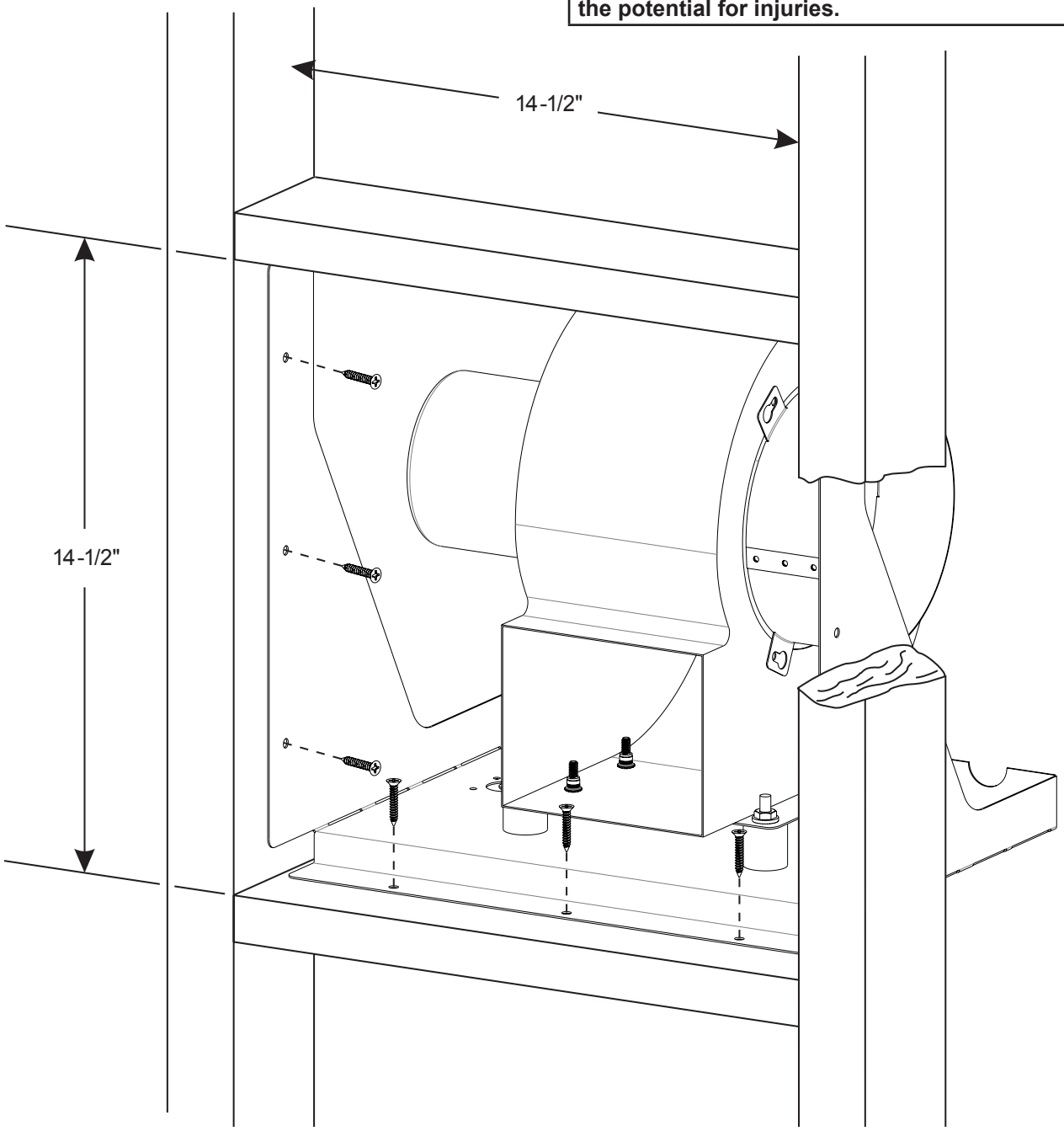
NOTE: Flex venting from kit SD6DFA25.

2. Other considerations such as planning the location for the junction box, field wiring, and internal placement of the rheostat to control the HMFA should be made. Refer to electrical connections on page 21.

3. The framed opening for installation of the HMFA is 14-1/2" X 14-1/2" in all applications. **See Figures 3 and 4.**

⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.



HMFA Framing Install

Figure 3

4. Once the framing is completed, install the Blower & Base assembly as shown in **Figures 3 - 9.** The Blower & Base assembly can be installed in the wall in any of four positions which allows flexibility of the venting connection to the blower.

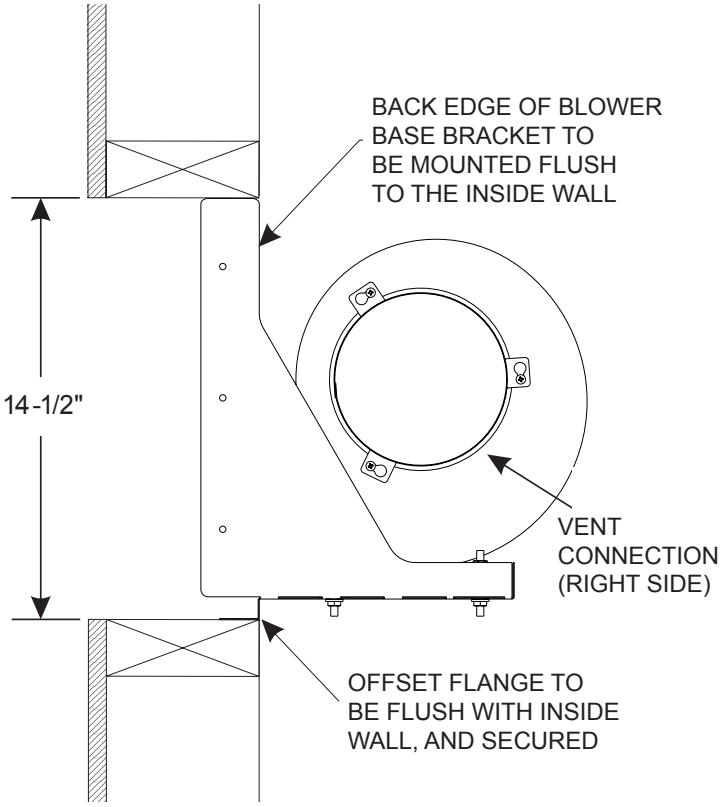


Figure 4

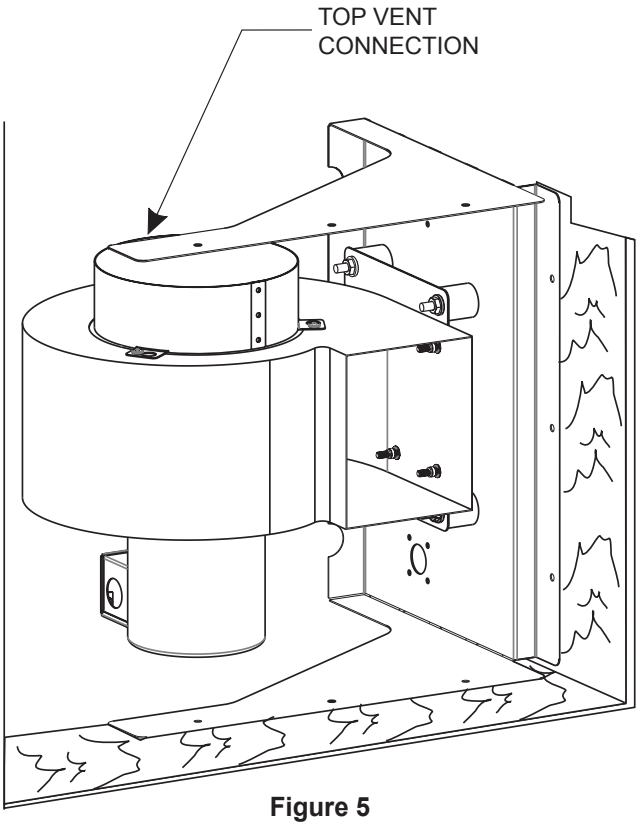


Figure 5

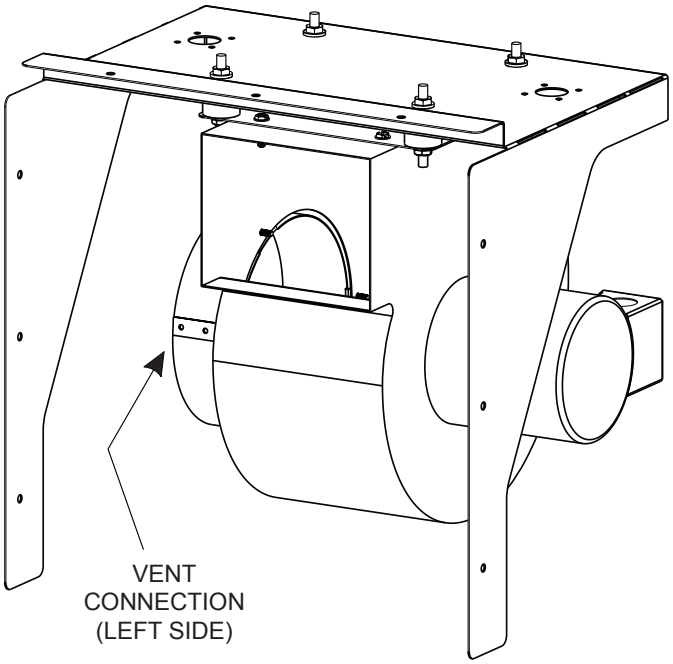


Figure 6

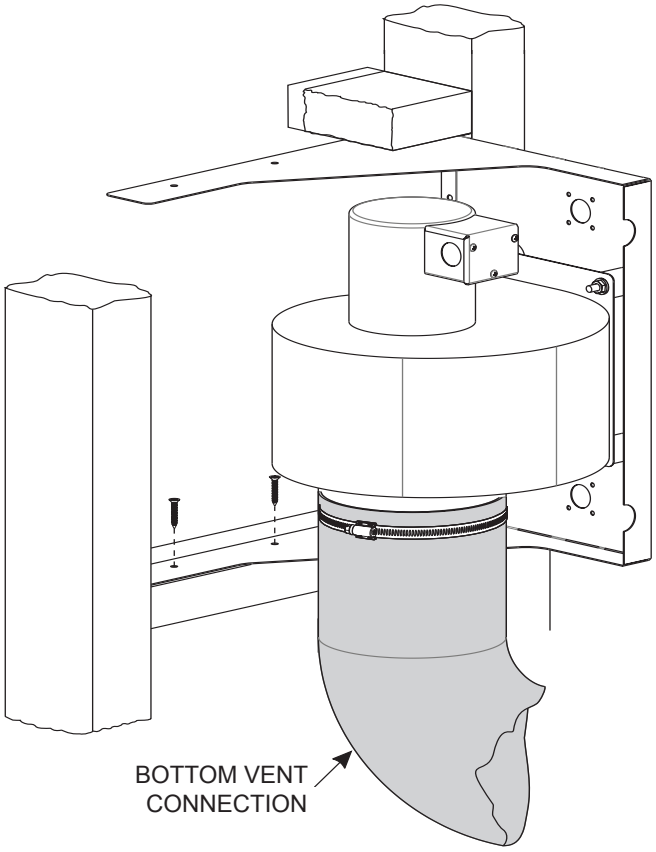


Figure 7

5. Place the offset flange of the Base against the back edge of the framed opening. In addition, align the back edge of the side brackets with the back edge of the framed opening. **See Figures 4 and 9.** Secure the Blower & Base assembly with the (9) 1" long drywall screws provided as shown in **Figure 8.**

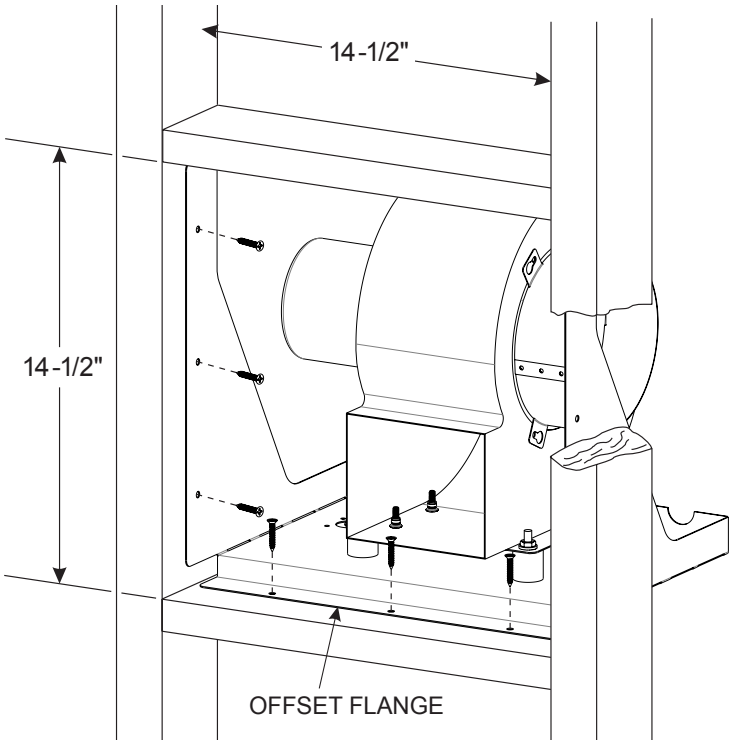


Figure 8

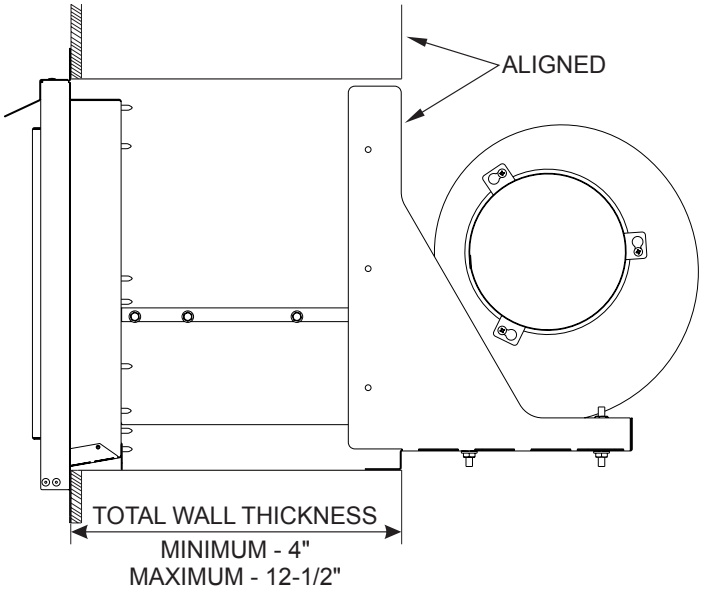


Figure 9

HMFA(36,48,60,72)P HEAT TRANSFER KIT

TOOLS / SUPPLIES NEEDED FOR HMFA(36,48,60,72)P:

- Electric Drill
- 1/8" Drill Bit
- 5/16" Nut Driver
- Aluminum Tape

HMFA(36,48,60,72)P INTRODUCTION

The Vent-Free Heat Transfer Kit (HMFA-P) is designed to be installed on VFLB Fireplaces only and used in conjunction with the HMFA Forced Air Management System to reduce the amount of heat produced during operation of the fireplace.

CONTENTS OF HMFA(36,48,60,72)P:

1. Duct Inlet Assembly (1 ea.)
2. 6" Dovetail Connector (1 ea.)
3. Gusset (4 ea.)
4. Top Framing Bracket (2 ea. 36 & 48), (4 ea. 60 & 72)

NOTE: Flex venting is not included with HMFA kit. Please order the SD6DFA25 Flex Vent Kit which includes 25' of Flex Vent and (2) Band clamps to complete the system installation.

NOTE: If a television is to be mounted above the fireplace, the HMFATV TV Kit MUST be used.

⚠ WARNING

HMFA Blower MUST be mounted on an exterior wall. DO NOT transfer heat to an interior space.

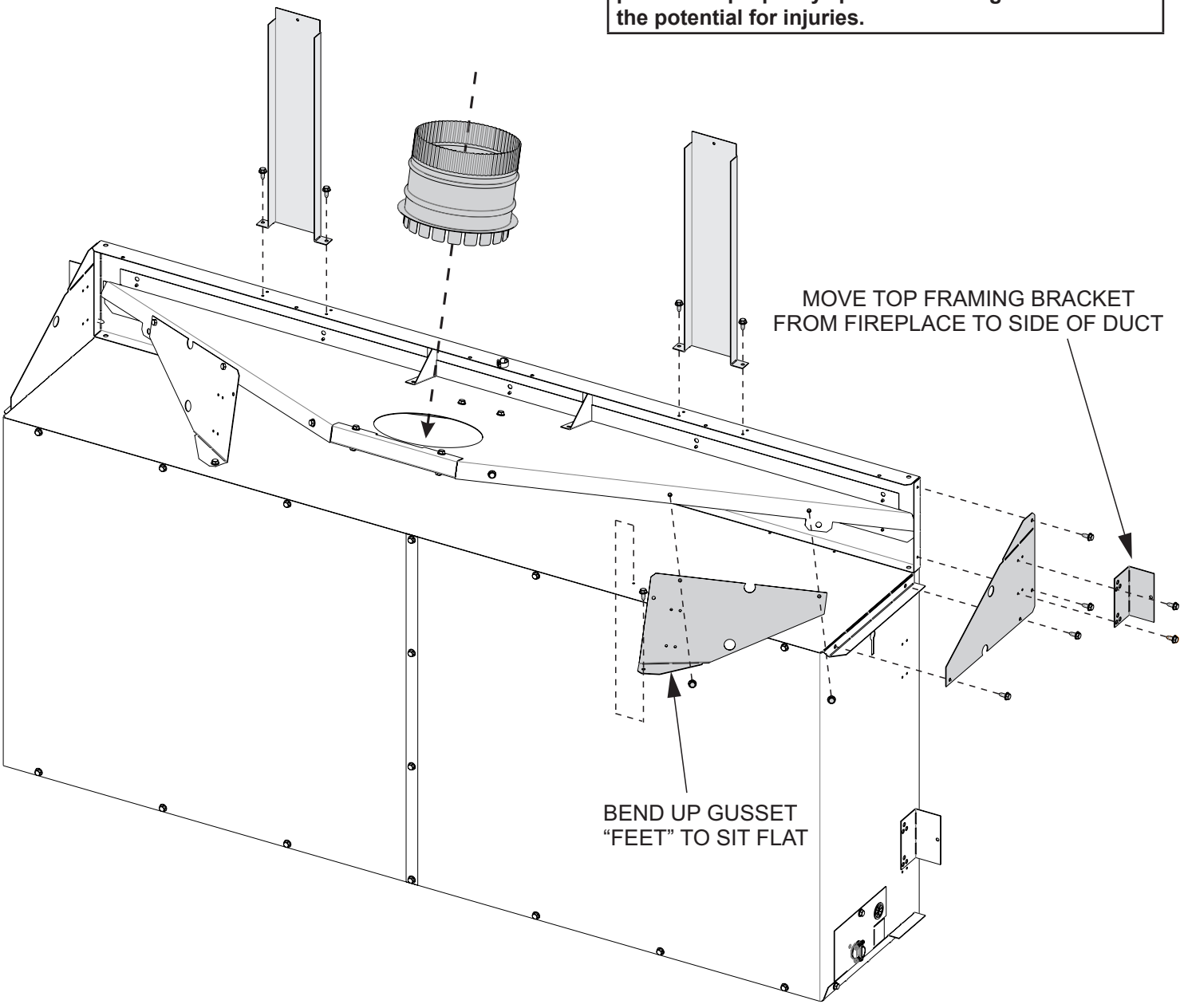
INSTALLING HEAT TRANSFER INLET DUCT ON VFLB FIREPLACE

PRIOR TO SETTING THE FIREPLACE INTO THE FRAMED OPENING, attach the HMFA(36,48,60,72)P Heat Transfer kit to the top of the VFLB fireplace as shown in **Figure 10.** The header framing brackets and triangular gussets are included in the HMFA(36,48,60,72)P kit. Use the # 10 X 1/2" screws found in the Heat Transfer Kit hardware pack or already present in locations shown in **Figure 10.**

6. Consult the wall finishing options in the VFLB fireplace manual and **Figure 12** below. Install the framing brackets according to the chosen finishing option.
7. Move the top pair of side framing brackets from the fireplace to the sides of the Heat Transfer Kit as shown in **Figure 10.**
8. If there are no holes for the triangular support gussets in the outer top of the fireplace, drill 1/8" holes using the support gussets as a guide, as shown in **Figure 11.**
9. Attach 6” duct connector by inserting into hole and fully bending all “dovetails” outwards. **See Figure 10.**

⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.



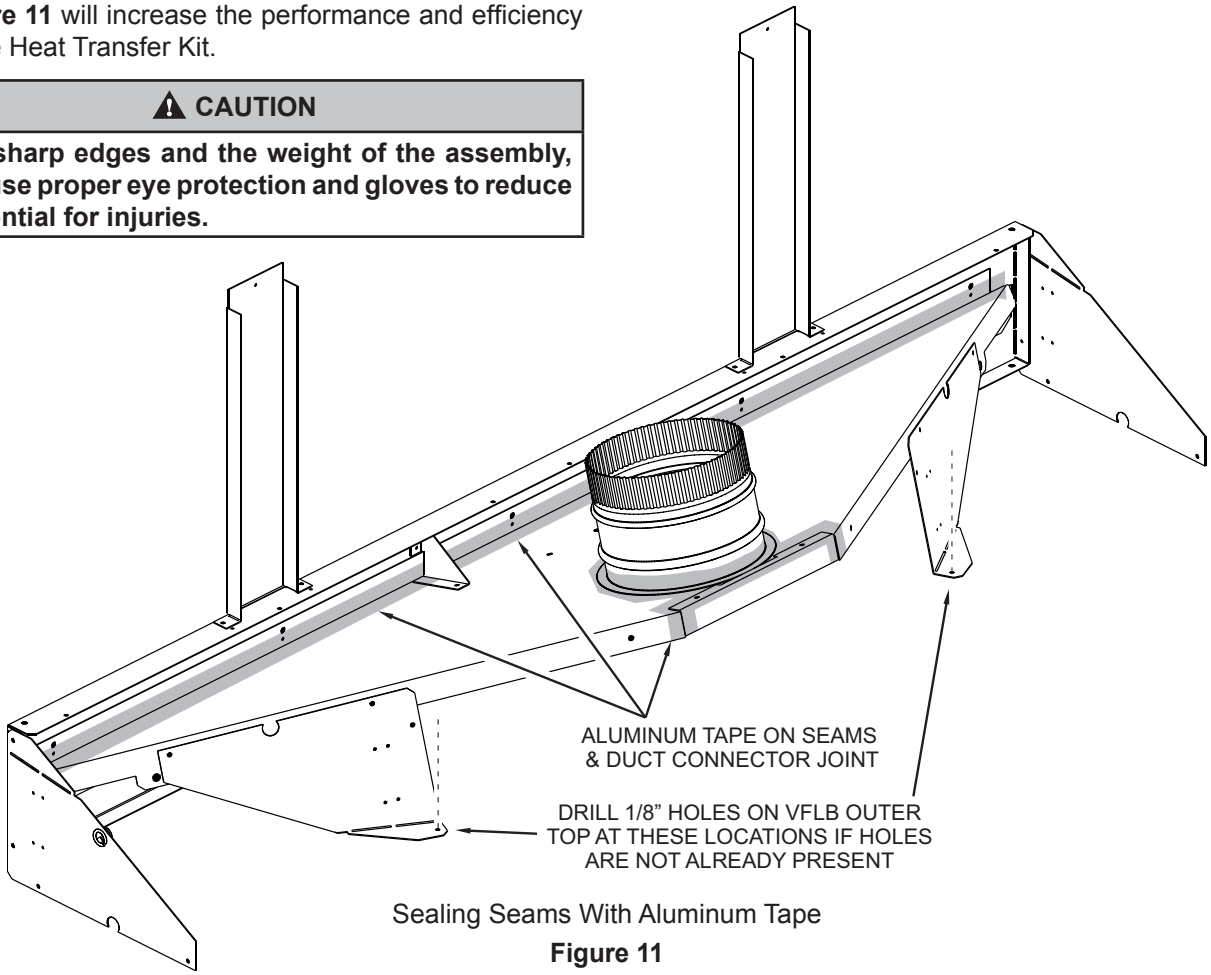
Attaching Heat Transfer Inlet To VFLB Fireplace

Figure 10

10. Covering the seams and duct connector joint shown in **Figure 11** will increase the performance and efficiency of the Heat Transfer Kit.

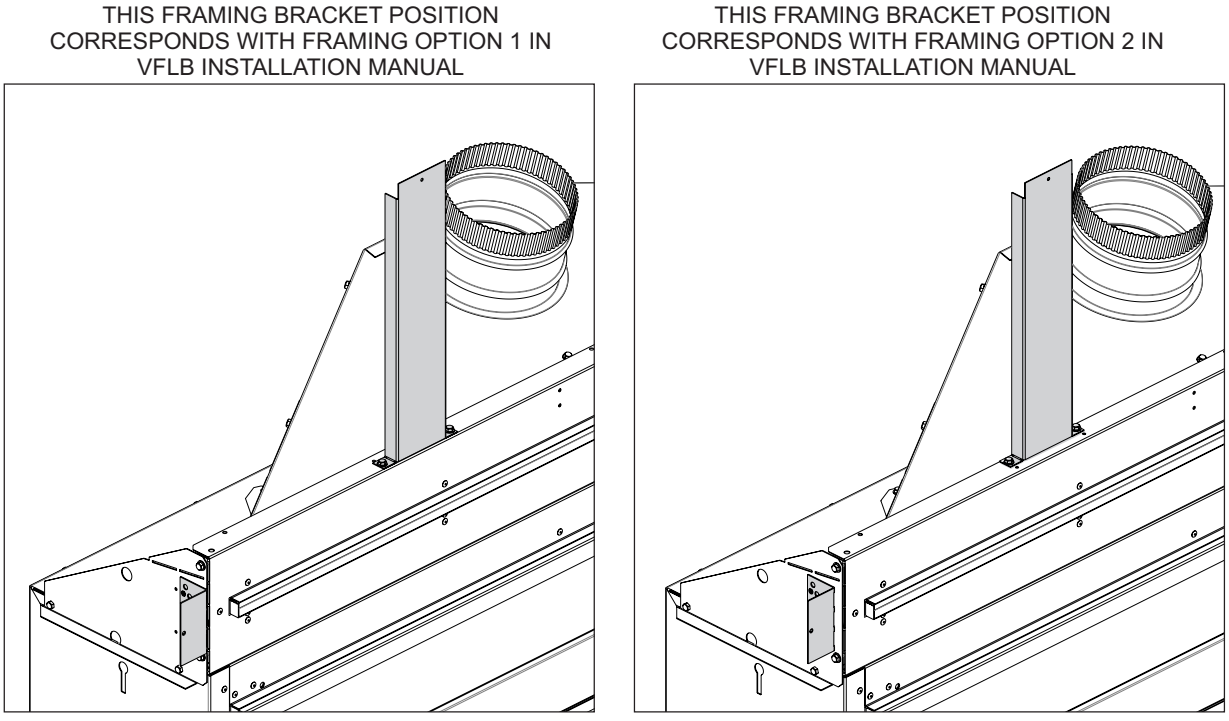
⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.



Sealing Seams With Aluminum Tape

Figure 11



Placing Brackets According To Chosen Wall Finishing Method

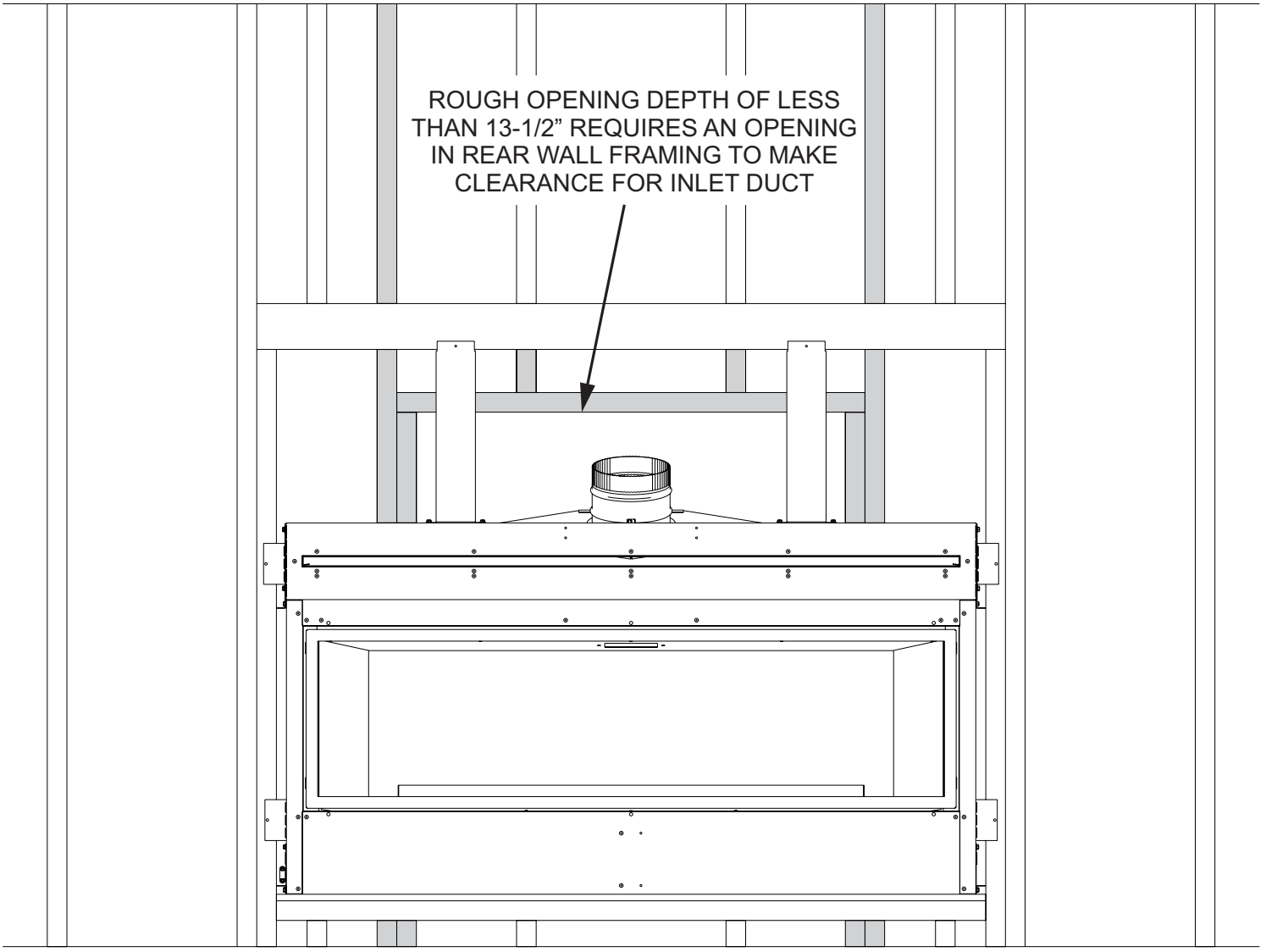
Figure 12

VFLB FIREPLACE AND HMFA(36,48,60,72)P HEAT TRANSFER KIT FRAMING

The VFLB fireplace with HMFA(36,48,60,72)P Heat Transfer Kit installed will use the same rough framing dimensions as are found in the VFLB Installation Manual. However, if the rough opening depth is less than 13-1/2", an opening must be incorporated into the rear chase wall to allow space for the HMFA-P inlet duct. **See Figure 13.** Attach Fireplace and Heat Transfer Kit to framing using screws provided in the VFLB hardware pack. (See VFLB Installation Manual.)

⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.



VFLB Fireplace And HMFA(36,48,60,72)P Heat Transfer Kit Framed In.

Figure 13

INSTALLATION OF NON-COMBUSTIBLE BOARD

The non-combustible board included with the VFLB fireplace will be attached according to the methods called out in the VFLB installation manual, but the board must be cut to work with the HMFA(36,48,60,72)P Heat Transfer Kit.

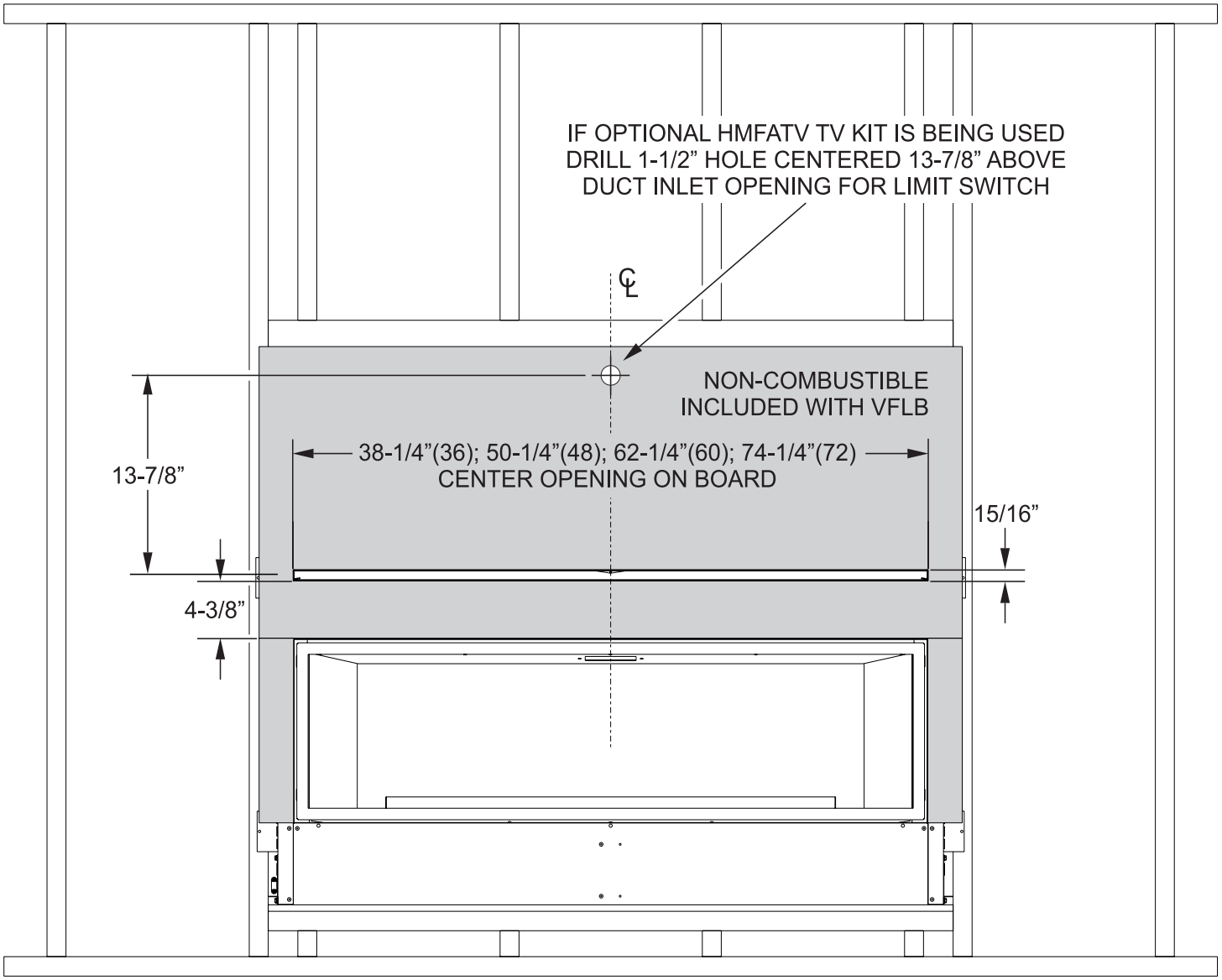
11. Consult the wall finishing options in the VFLB installation manual and see **Figures 14 and 15 below.**
12. Cut the non-combustible board according to the chosen wall finishing method.

For Optional HMFATV Television Kit:

13. Drill a 1-1/2" hole centered 13-7/8" above the duct inlet opening as shown in **Figures 14 and 15 below.**

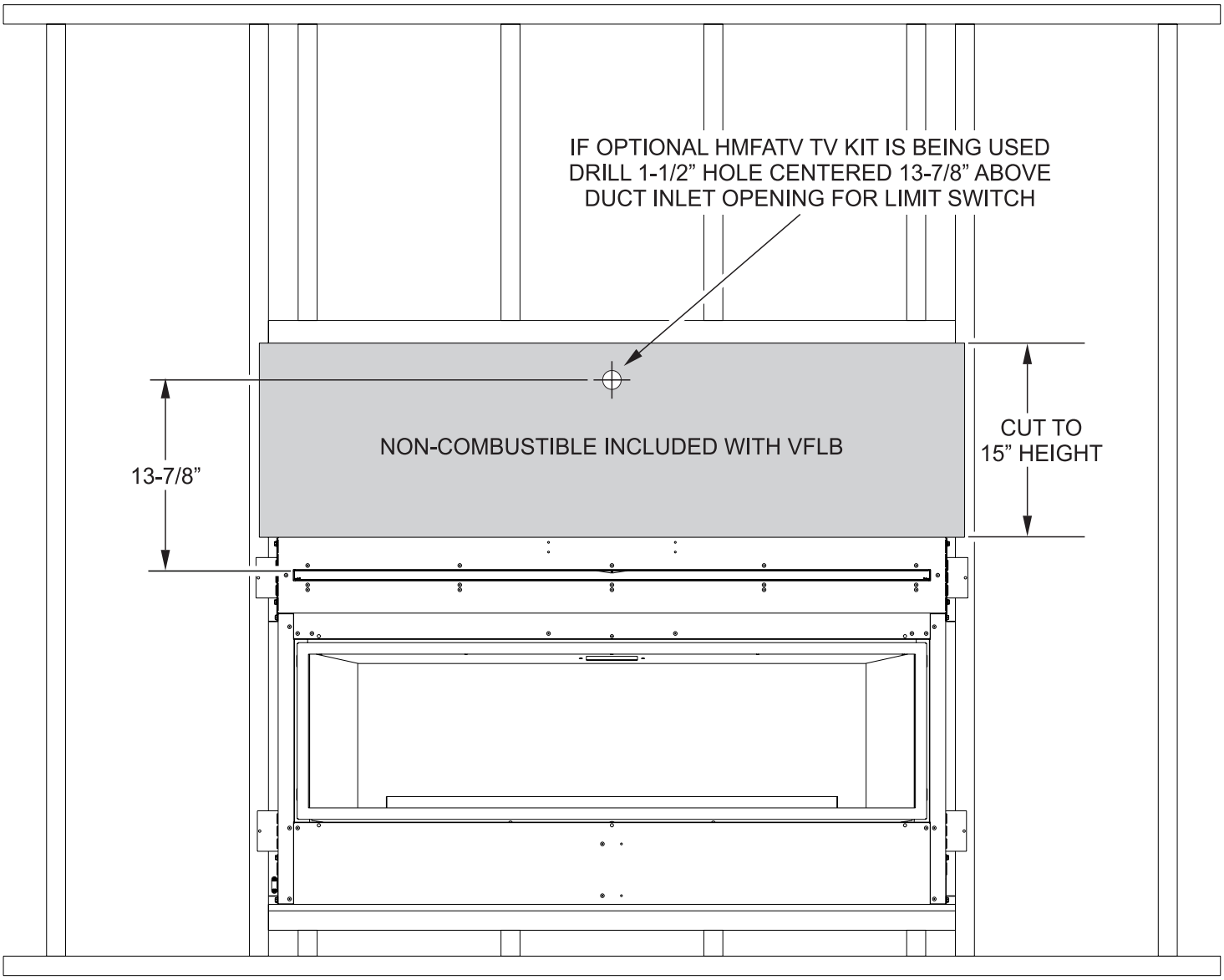
⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.



Non-Combustible Board, Finishing Option 1

Figure 14



Non-Combustible Board, Finishing Option 2

Figure 15

NOTE: Proceed to page 20 if HMFATV Television Kit is not being used.

HMFATV TELEVISION KIT

TOOLS/SUPPLIES NEEDED FOR HMFATV:

- Electric Drill
- Step Drill Bit (for VFLB(36,48,60,72)-1 only)
- 3/16" Drill Bit
- 1-1/2" Hole Saw
- Phillips Screw Driver
- 5/16" Nut Driver
- Wall Anchors with #8 Screws (2)
- Wire Nuts (2)

HMFATV INTRODUCTION

The HMFATV Television Kit is designed to automate the operation of the HMFA Forced Air Blower, in order to protect a wall-mounted television from heat damage while the fireplace is in use. During normal operation the blower is turned on and off by a snap-disc inside the firebox. In the case of a power outage or blower failure, the fireplace will be deactivated by a wall-mounted limit switch in order to protect the television. The rheostat control included in the HMFA Forced Air Blower is not utilized.

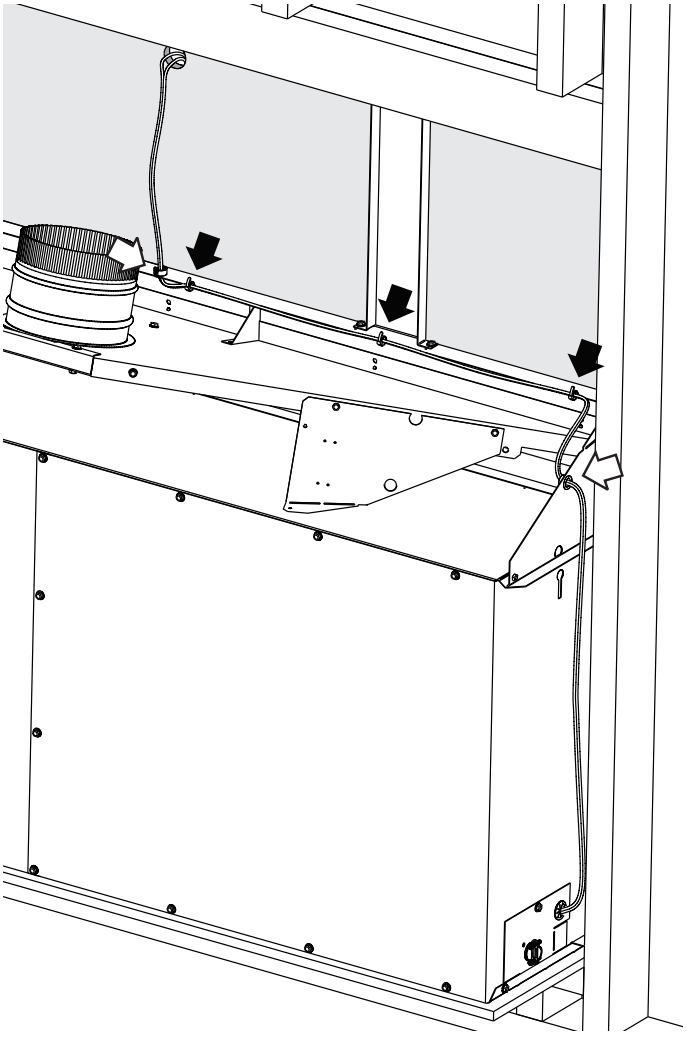
CONTENTS OF HMFATV:

1. Nut, 10-24 (2 ea.)
2. Screw, 10-24 X 3/4" (2 ea.)
3. Nut, 4-40 (2 ea.)
4. Screw, 4-40 X 3/4" (2 ea.)
5. Limit Switch Plate (1 ea.)
6. J-box Cover Plate (1 ea.)
7. Limit Switch, 150 degree (1 ea.)
8. Snap-Disc, 110 Close; 90 Open (1 ea.)
9. Wire Harness, Limit Switch (1 ea.)
10. Wire Harness, Fan Control (1 ea.)
11. Junction Box (1 ea.)
12. Wire Bushing, 5/8" (2 ea.)
13. Clip, Wire (2 ea.)
14. Romex Connector, 3/8" (1 ea.)
15. Zip Tie (4 ea.)

⚠ WARNING

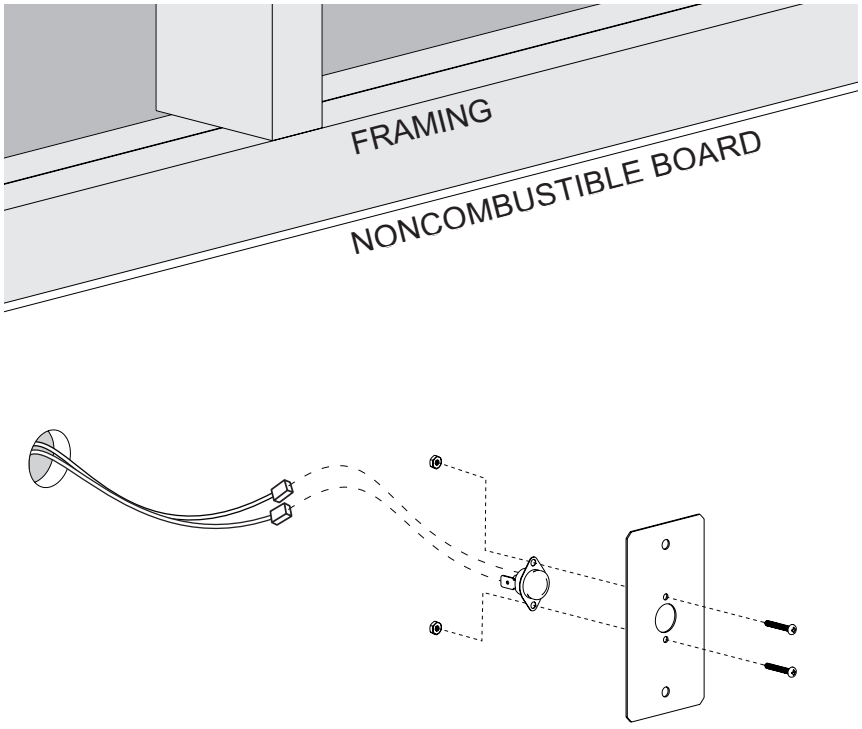
HMFA Blower MUST be mounted on an exterior wall. DO NOT transfer heat to an interior space.

14. Insert the included 5/8" Wire Bushings into the two holes called out by white arrows in **Figure 16.**
15. The Limit Switch Wire Harness consists of two white wires with connectors on both ends. Route the Limit Switch Wire Harness as shown in **Figure 16,** passing through the Wire Bushings and fastened to the HMFA-P duct with zip ties (included) called out by the black arrows. The Wire Harness end with two female connectors should exit through the hole in the noncombustible board as shown. Position the Wire Harness such that 8-9" of length is hanging out of the noncombustible board.
16. The Limit Switch Wire Harness enters the fireplace through the Wire Bushing in the access panel on the left-hand side.
17. Using the included (2) 4-40 machine screws, (2) 4-40 nuts, Limit Switch Plate, and the 150 degree manually resettable Limit Switch, assemble the Limit Switch & Plate Assembly as shown in **Figures 17 and 18** and connect it to the Limit Switch Wire Harness.



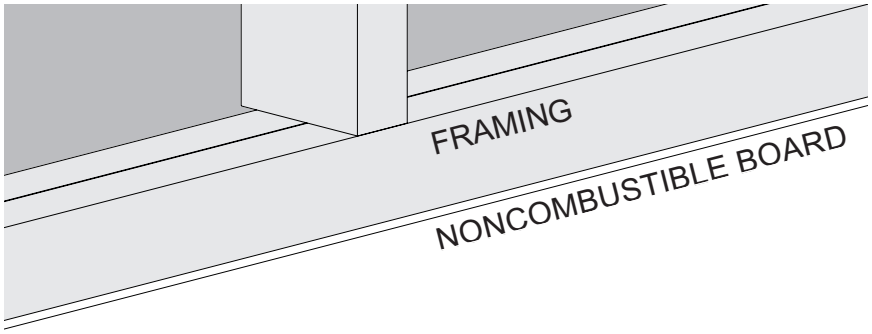
HMFA(36,48,60,72)P Heat Transfer Kit.

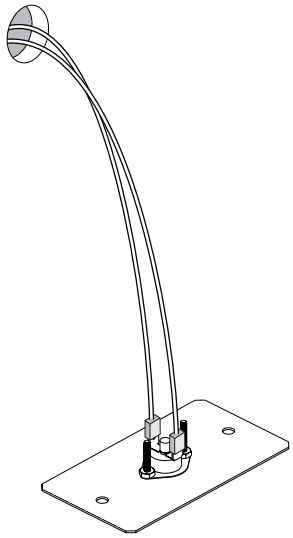
Figure 16



Connecting Limit Switch And Plate Assembly

Figure 17



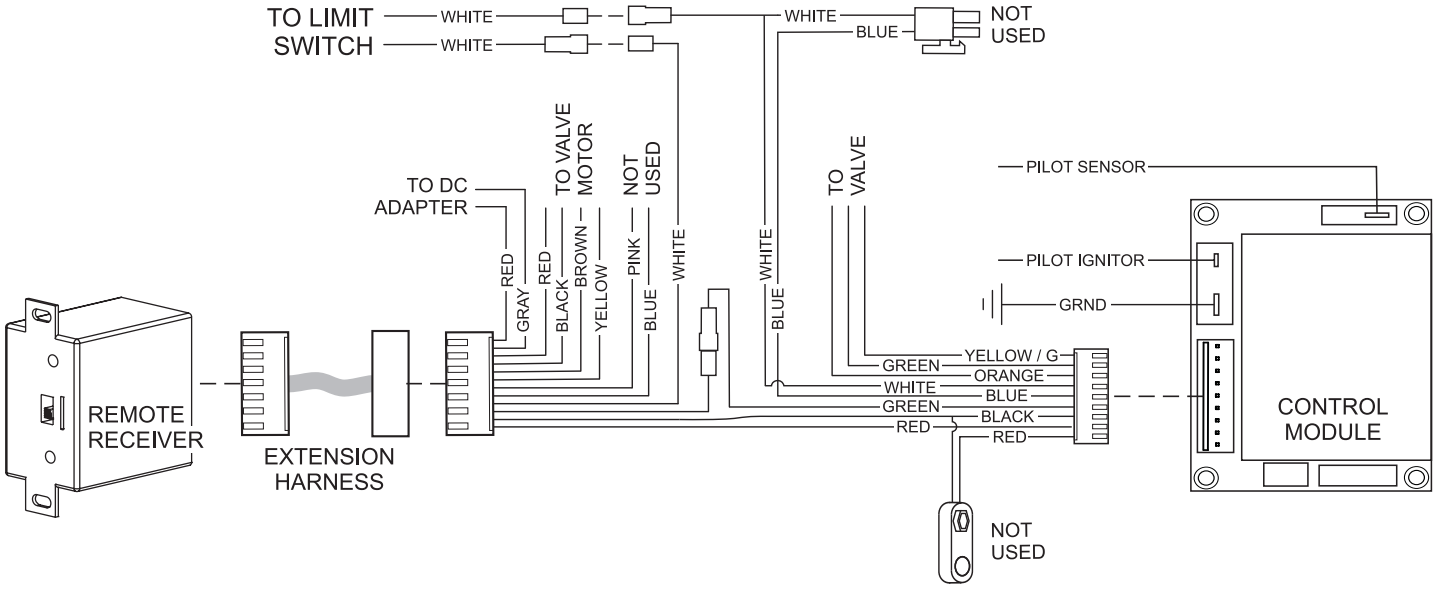


NOTE: When finishing interior wall, leave the Limit Switch connected to the Wire Harness to prevent wires from falling back inside the wall. Use Limit Switch Plate as a guide to mark holes and attach to wall with wall anchors suitable for chosen finishing material (not included).

Limit Switch And Plate Assembly Hanging From Wire Harness

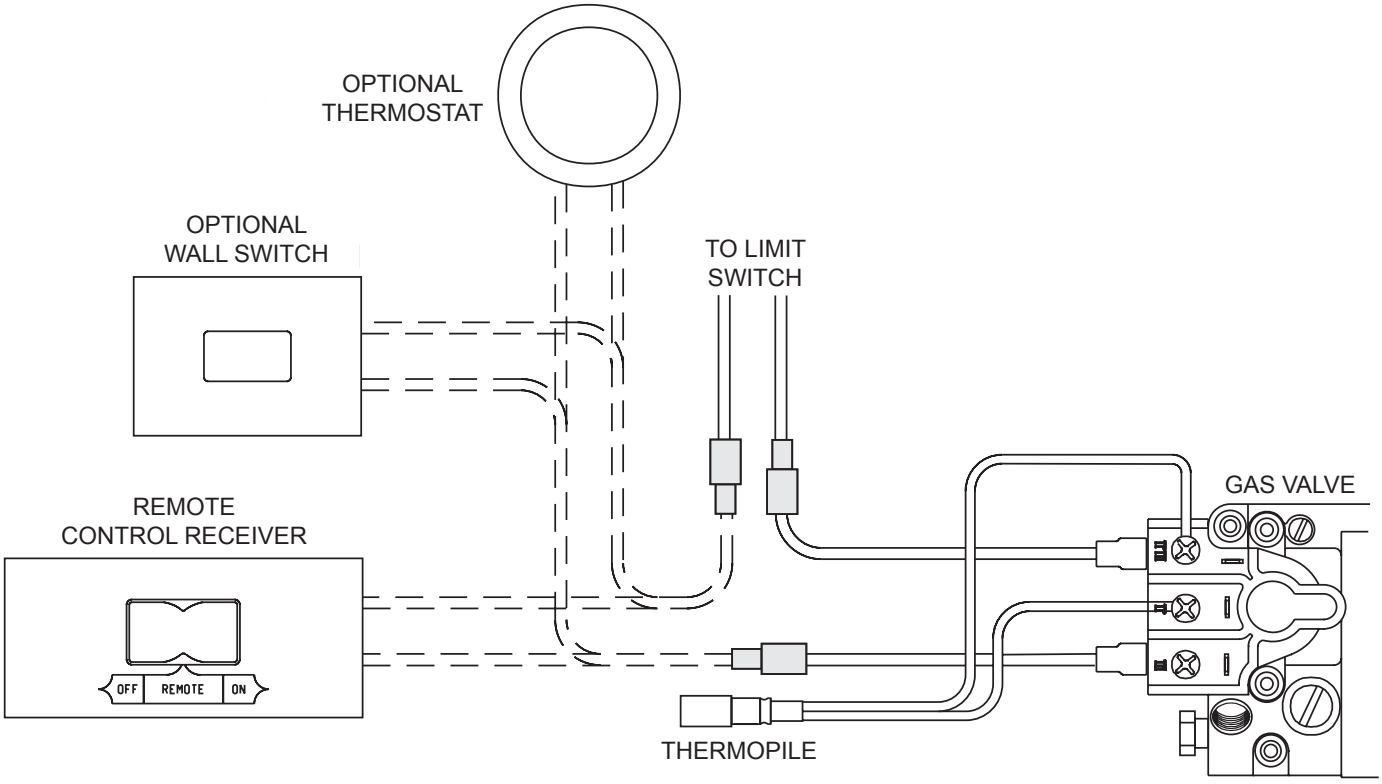
Figure 18

18. Remove screen frame and burner cover. Depending upon whether you are working with a IP or MV unit, connect the Limit Switch Wire Harness to the fireplace control system as shown in either **Figure 19 or Figure 20.** Neatly coil excess Limit Switch Wire length, and secure with zip tie in left-front corner of fireplace.



Connect Limit Switch To IP System.

Figure 19

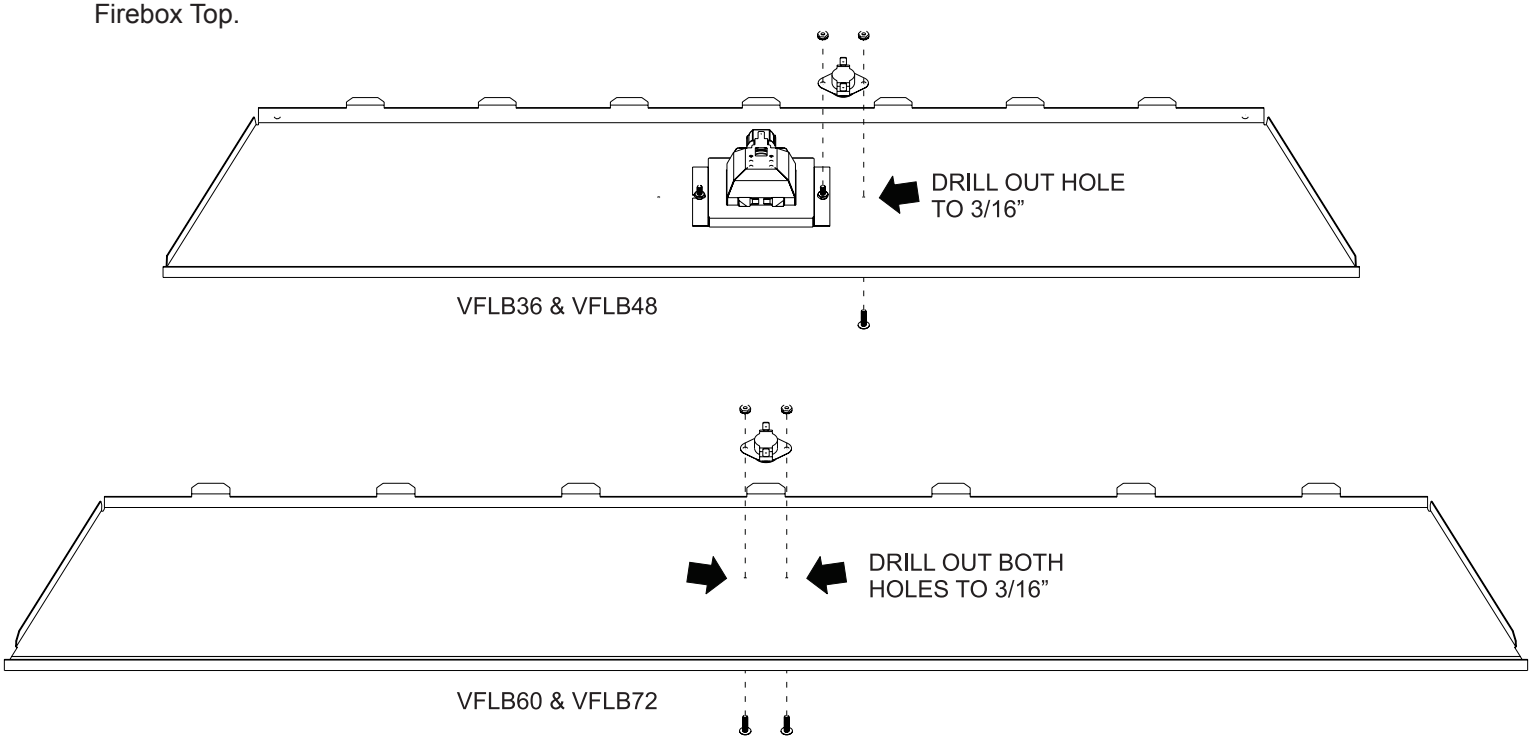


Connect Limit Switch To MV System.

Figure 20

19. For VFLB36 & 48, drill out the right-most hole shown in **Figure 21** with a 3/16th drill bit. Attach the fan switch as shown in **Figure 21** using two 10-24 nuts and the 10-24 screw (included). Make sure that the face of the fan switch is fastened firmly against the surface of the Firebox Top.

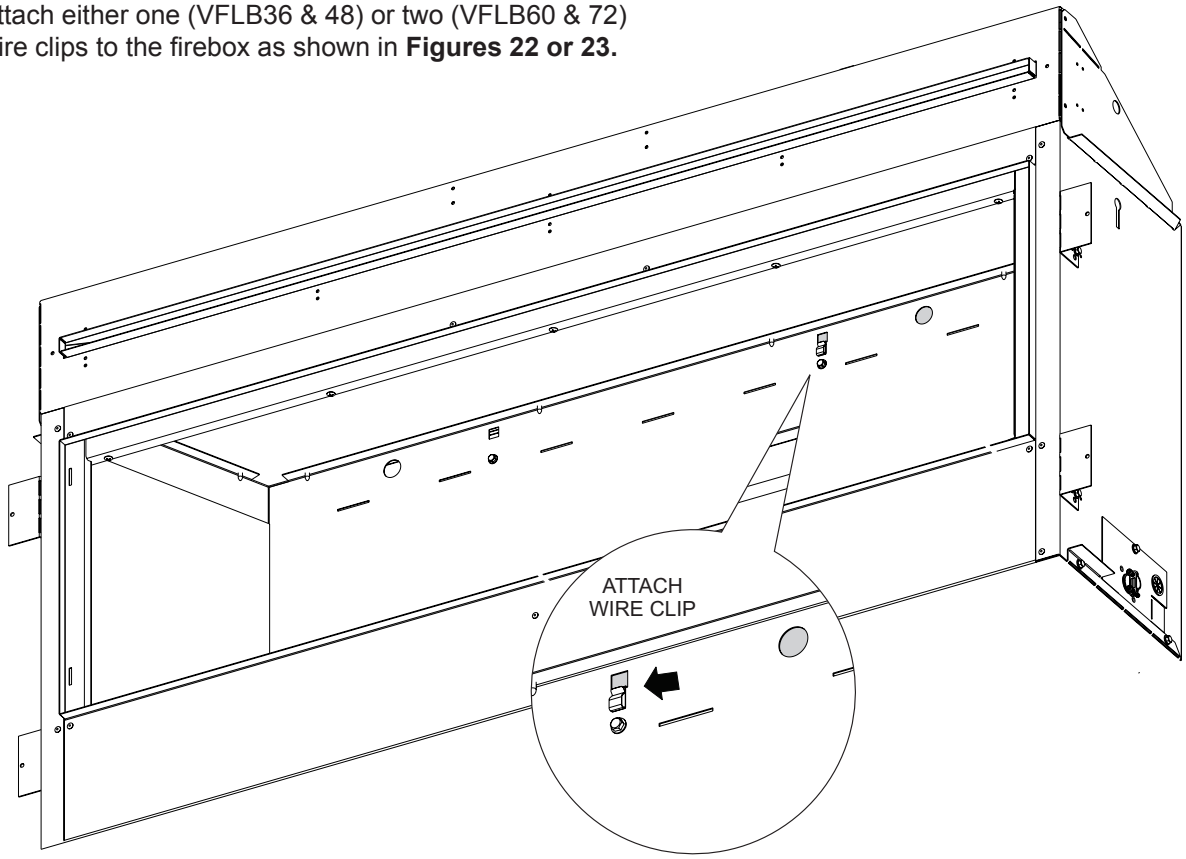
For VFLB60 & 72, drill out the two holes shown in **Figure 21** with a 3/16th drill bit. Attach the fan switch as shown in **Figure 21** using two 10-24 nuts and two 10-24 screws (included). Make sure that the face of the fan switch is fastened firmly against the surface of the Firebox Top.



Attaching Fan Switch To Firebox Top

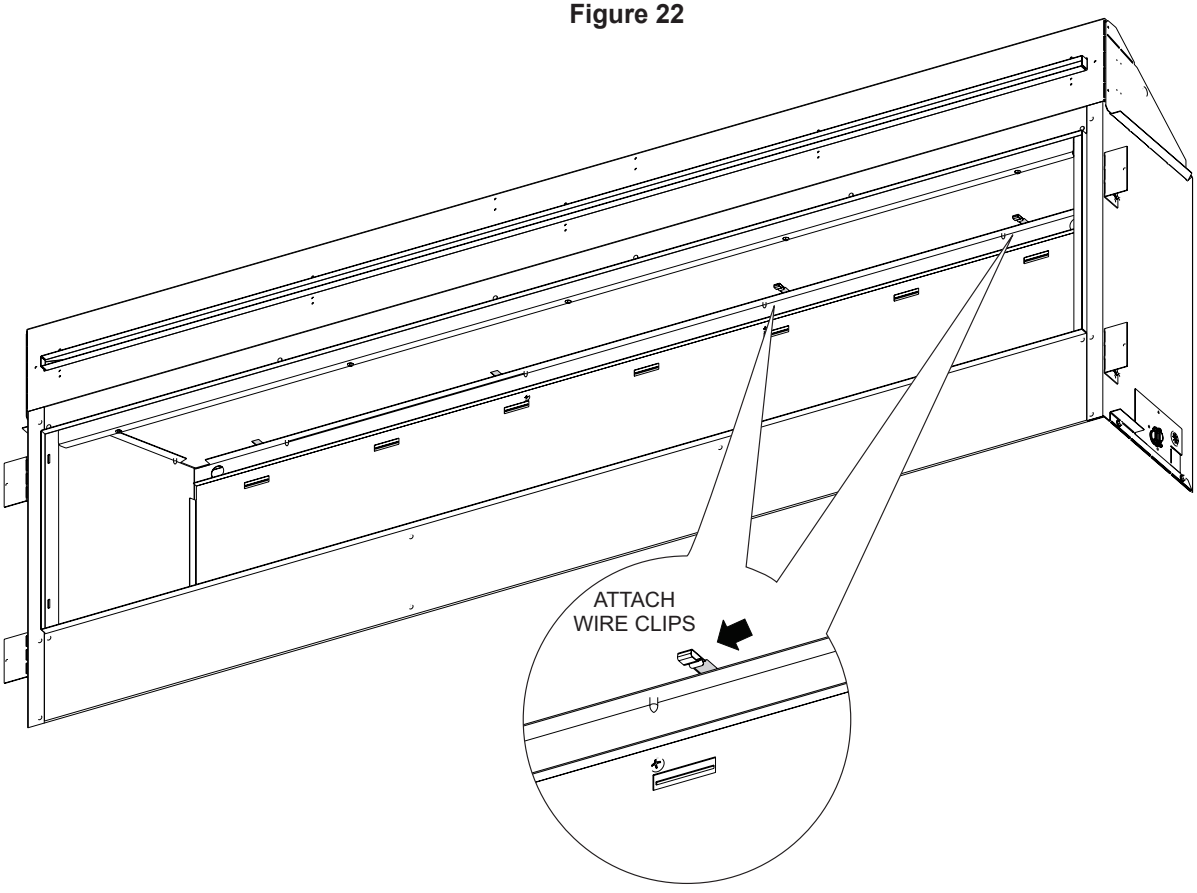
Figure 21

20. Attach either one (VFLB36 & 48) or two (VFLB60 & 72) wire clips to the firebox as shown in **Figures 22 or 23.**



Wire Clip Location, VFLB36 and VFLB48

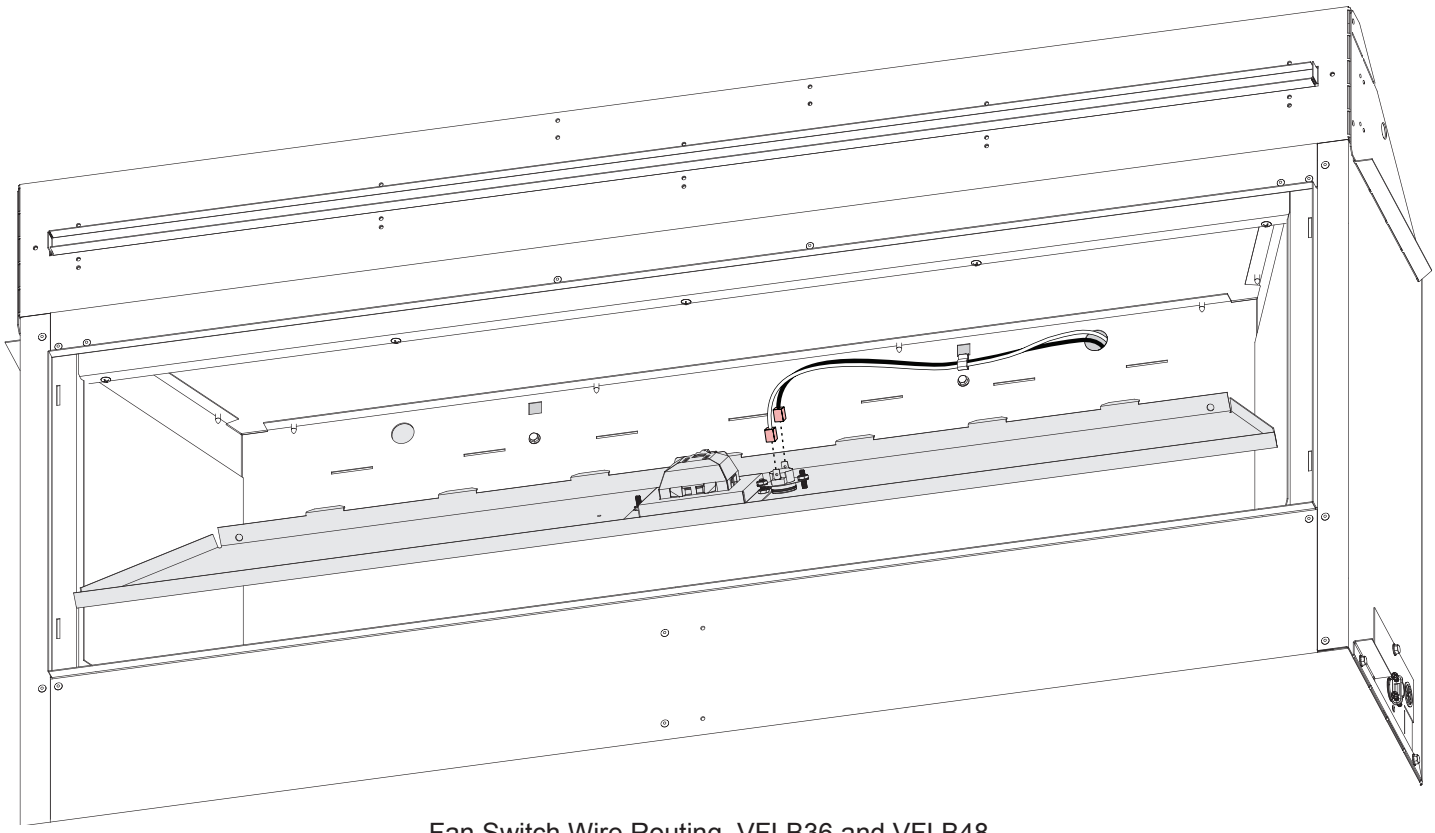
Figure 22



Wire Clip Location, VFLB60 and VFLB72

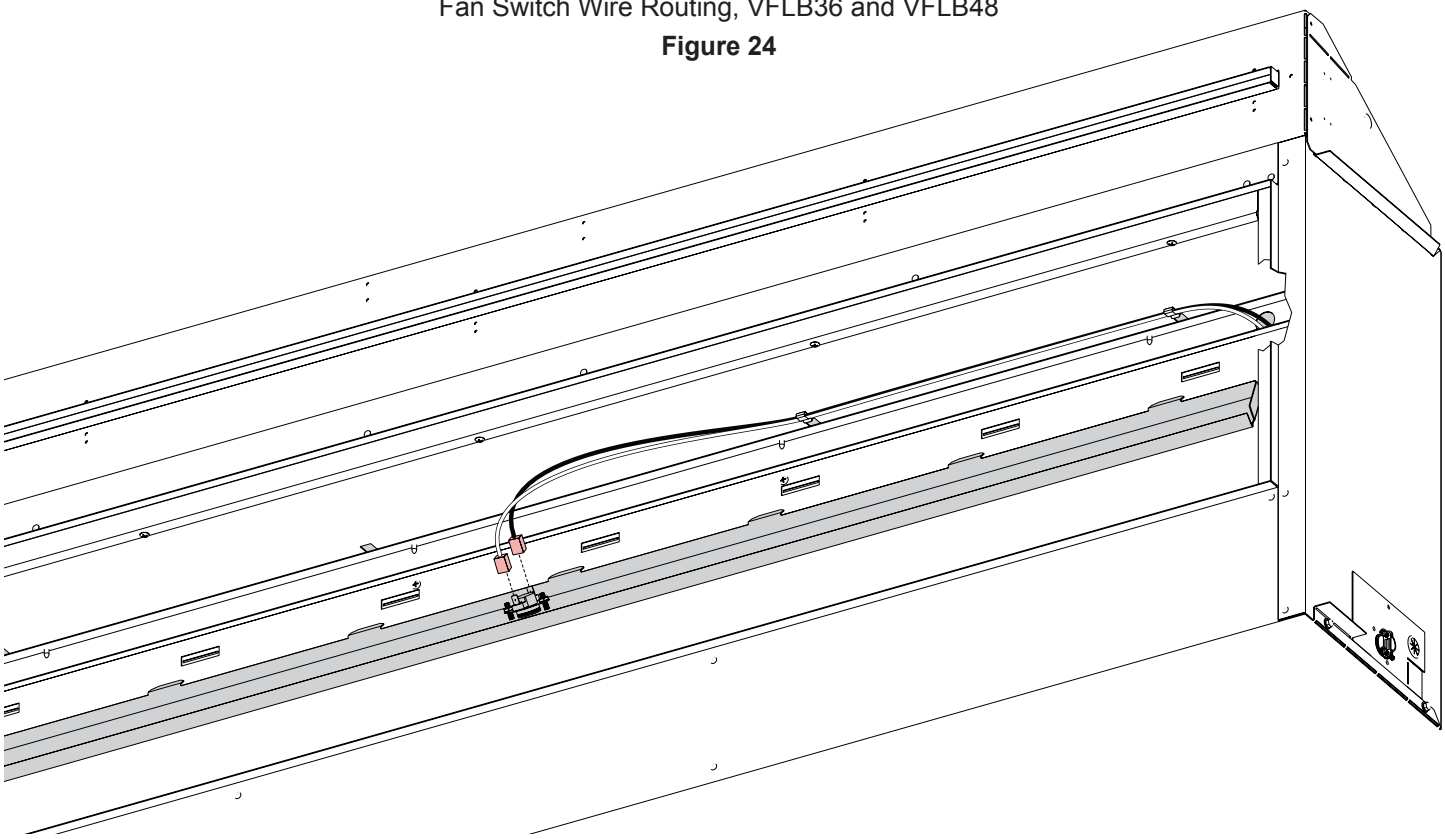
Figure 23

21. The Fan Switch Wire Harness has two white wires with connectors on only one end. Attach the end of the Wire Harness with two female connectors to the Fan Switch and route the Wire Harness through the wire clips as shown in **Figure 24 or 25**, exiting through the hole in the right side of the Firebox as shown.



Fan Switch Wire Routing, VFLB36 and VFLB48

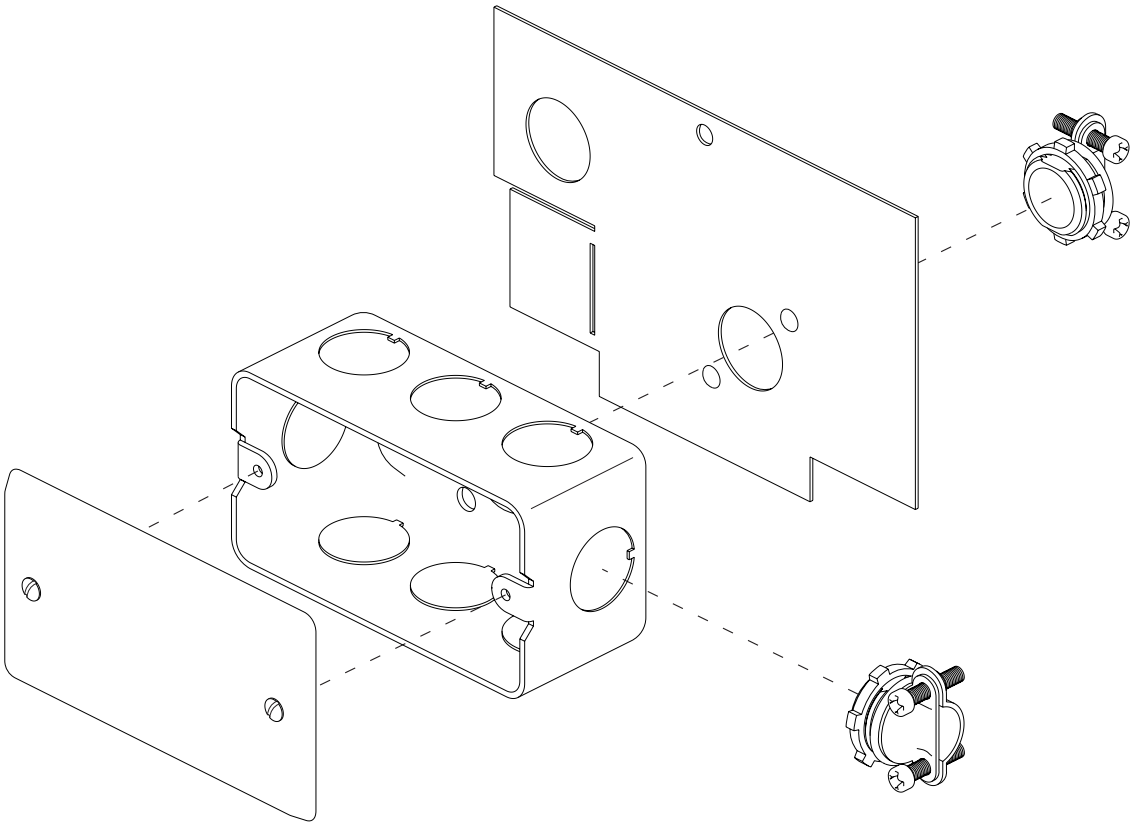
Figure 24



Fan Switch Wire Routing, VFLB60 and VFLB72

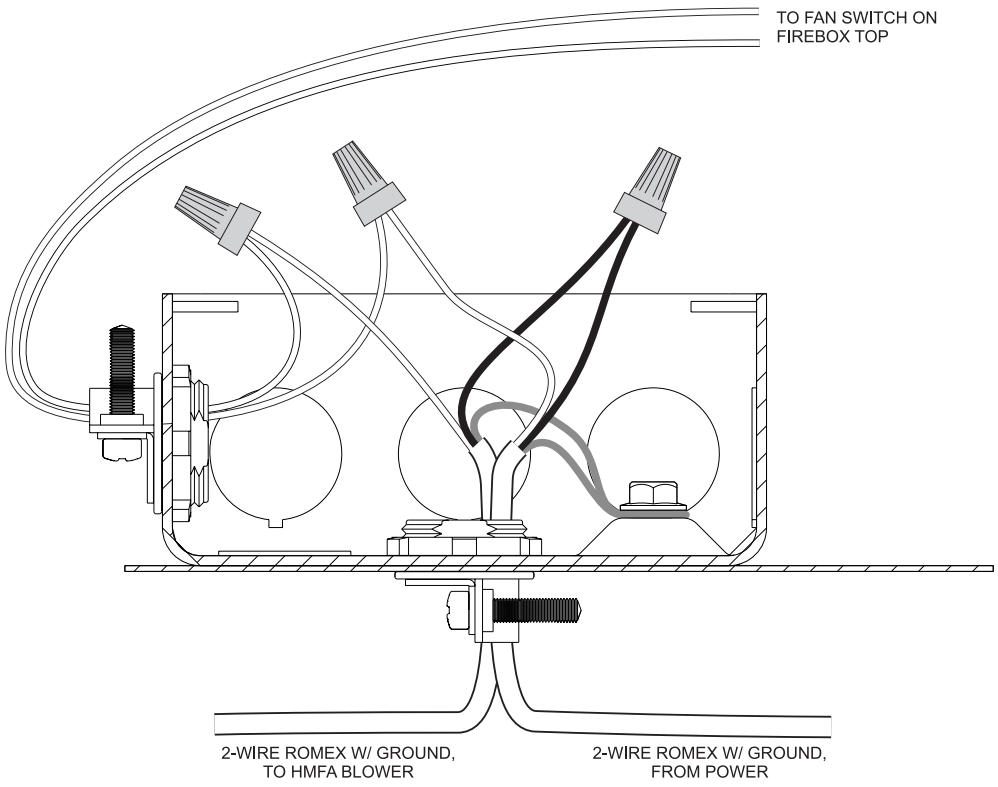
Figure 25

22. Attach Junction Box to right-side Access Plate and connect Fan Switch Wire Harness as shown in **Figures 26 and 27.**



Attach Junction Box To Access Plate

Figure 26



Connect Fan Switch To Power

Figure 27

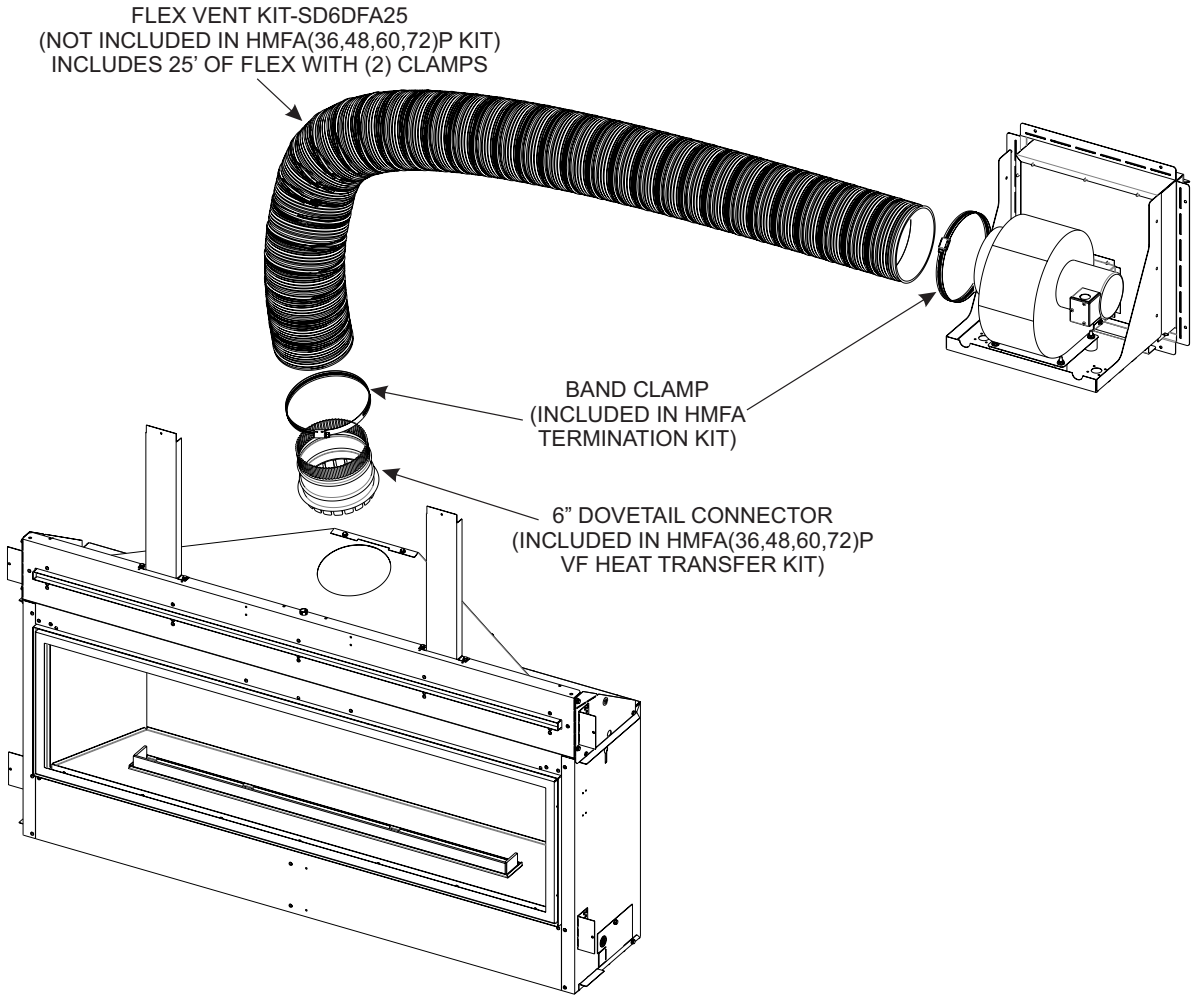
23. Using gloves, unstretch the 6" diameter flex venting from the SD6DFA25 Flex Vent kit.

⚠ CAUTION

Due to sharp edges and the weight of the assembly, please use proper eye protection and gloves to reduce the potential for injuries.

24. Measure and cut the Flex-Vent length that runs from the HMFA-P 6" duct connector installed in step 9 to the Forced Air Kit Termination.

25. Attach and secure the each end of the Flex-Vent with 7" diameter gear clamps provided in the SD6DFA25 Flex-Vent Kit. **See Figures 28 and 29.**



PARTS FROM HMFA FORCED AIR KIT NOT USED

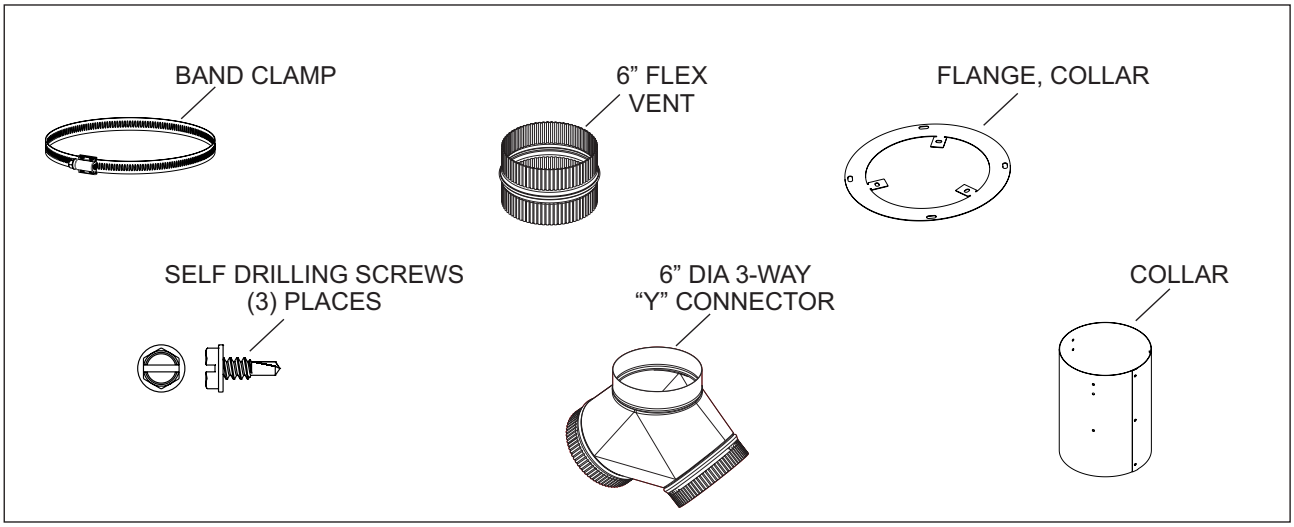


Figure 28

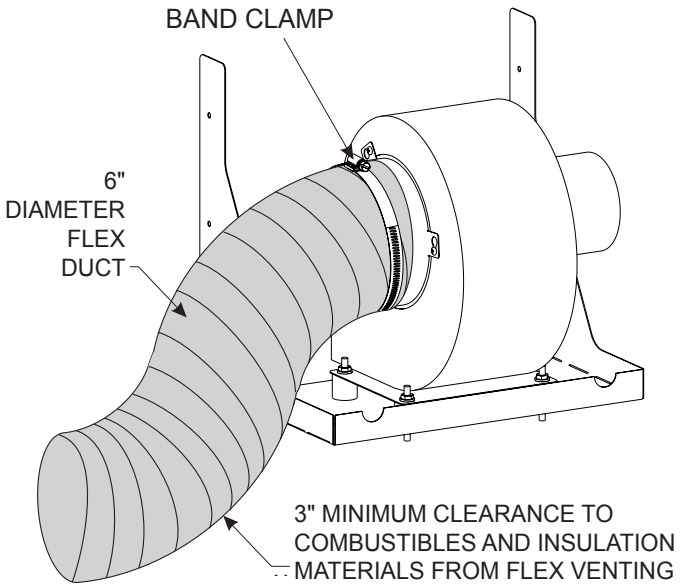


Figure 29

NOTE: Flex venting must be supported with wire or plumbers strapping at intervals that adequately support the vent pipe. 2-3' intervals are recommended.

ELECTRICAL CONNECTIONS

26. Mount the metal junction box (included in HMFA) to the framing near the blower base within 2' foot so the flexible metal clad wire harness can be terminated and spliced into the 120 Volt electrical supply. **See Figure 30.**

    NOTE: all electrical connections must be performed by a qualified electrician.

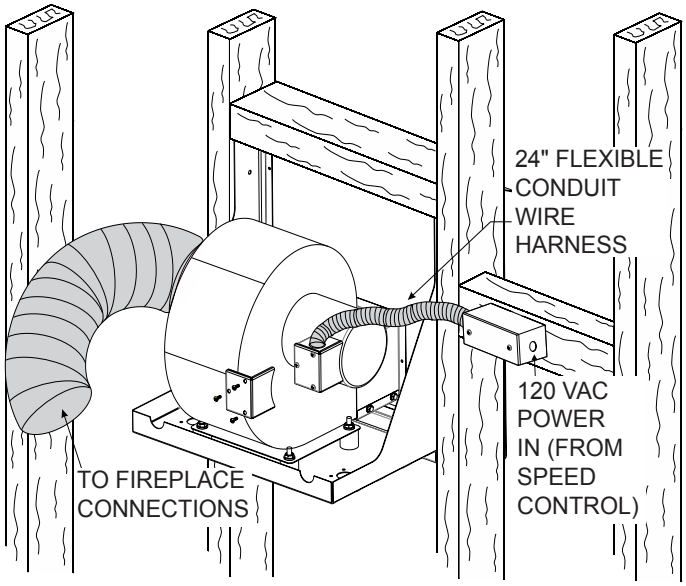


Figure 30

27. The electrician is responsible for performing all wiring from the blower to the wall mounted rheostat or junction box on right side of fireplace. The rheostat must be mounted in a standard wall box (not included).

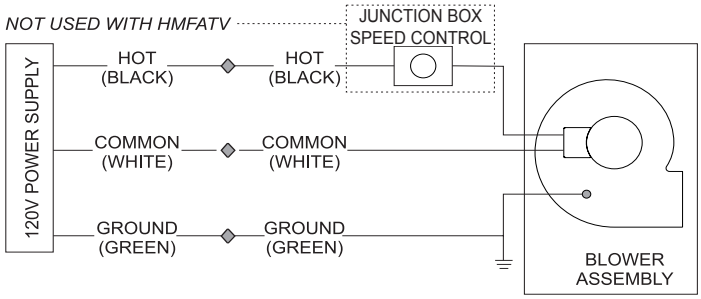
WIRING

⚠ WARNING

All wiring should be done by a qualified electrician, and shall be in compliance with local codes and with the current National Electric Code ANSI/NFPA 70 (in the U.S.), or with the current CSC22.1 Canadian Electric Code (in Canada).

⚠ WARNING

Make sure the fireplace electrical circuit is disabled prior to working on electrical hookup.



OUTER TERMINATION INSTALLATION

28. Install the Outer Termination into the 14-1/2" X 14-1/2" framed opening through the exterior wall of the building, then secure with 1" long drywall screws as shown in **Figure 31.**

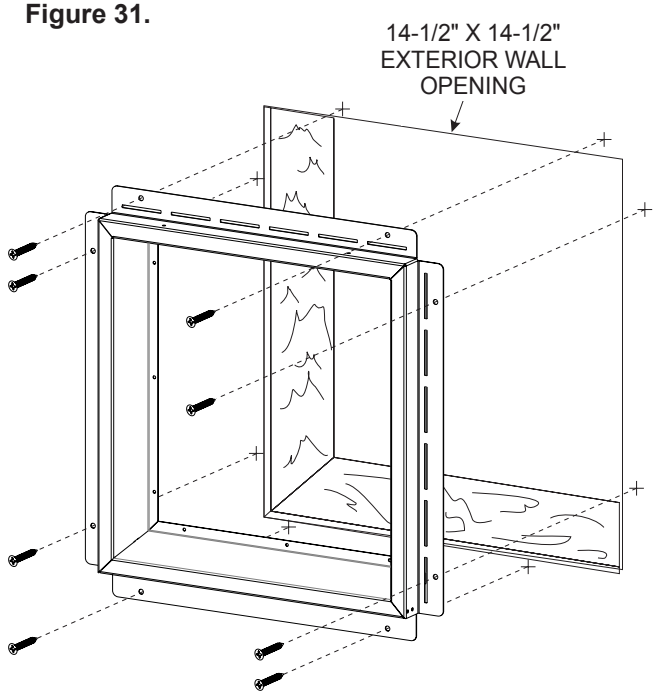


Figure 31

29. Locate the two halves of the Air Duct. To determine the length needed for this duct, take a measurement from the blower housing outlet to the inner flange on the Outer Termination Frame. **See Figure 32.**

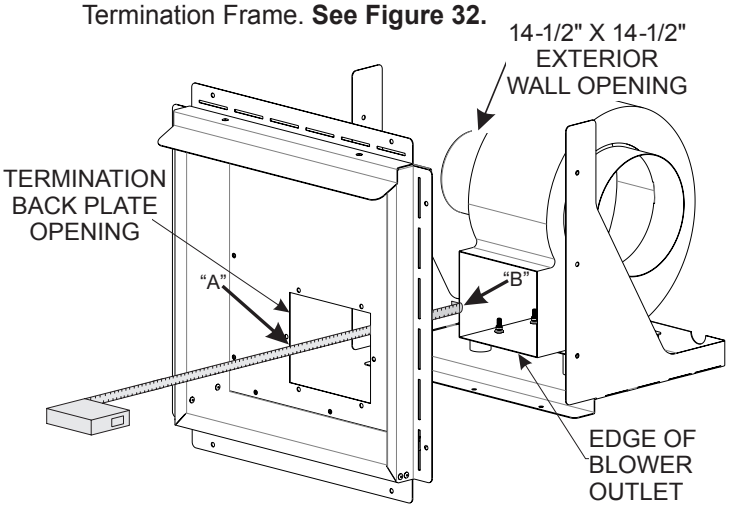


Figure 32

30. Add 1-1/4" to the dimension taken in step 20, then using metal snips, cut both halves of the Air Duct to length. **See Figure 33**, and discard the trimmed off ends.

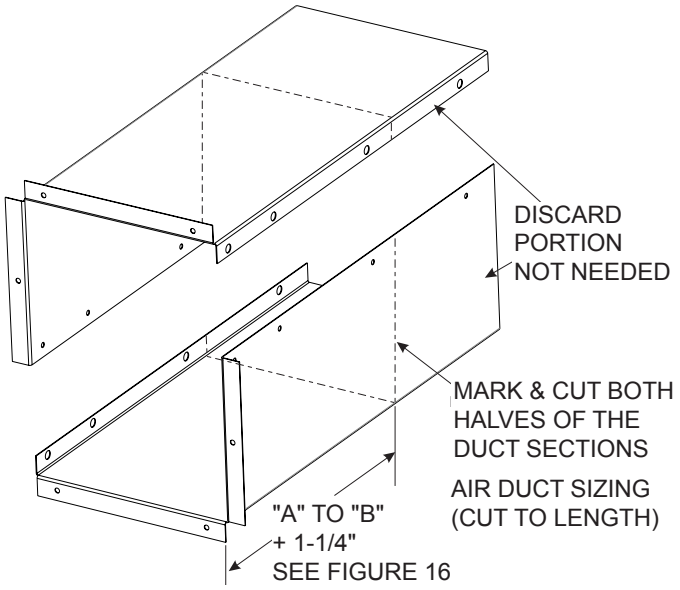


Figure 33

31. Using # 10 X 1/2" long Hex Head screws, join the two halves of the Air Duct together as shown in **Figure 34.**

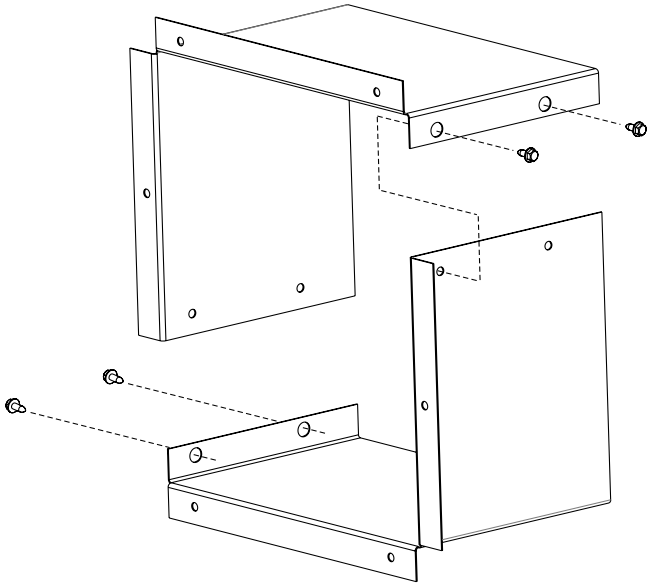
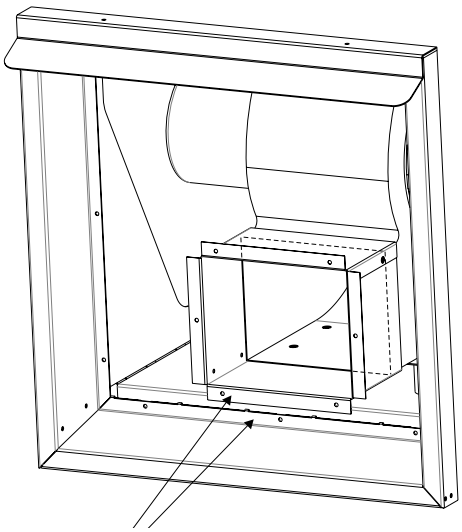


Figure 34

32. Install the cut end of the Air Duct over the Blower outlet. **See Figure 35.**

33. Check to see if the flanges of the Air Duct are flush with the bottom inside flange of the Outer Termination as shown by **Figure 35.** If too long, trim additional metal from the back edges of the Air Duct to fit.



ONCE THE AIR DUCT IS SLIPPED OVER THE BLOWER OUTLET, THE FLANGES OF THE DUCT MUST BE FLUSH WITH THE INNER FLANGES OF THE OUTER TERMINATION ASSEMBLY

Figure 35

34. Install the Termination Back Plate by aligning the large rectangular hole with the Air Duct. Using (6) # 10 X 1/2" screws, secure the Back Plate to the Air Duct. **See Figure 36.**

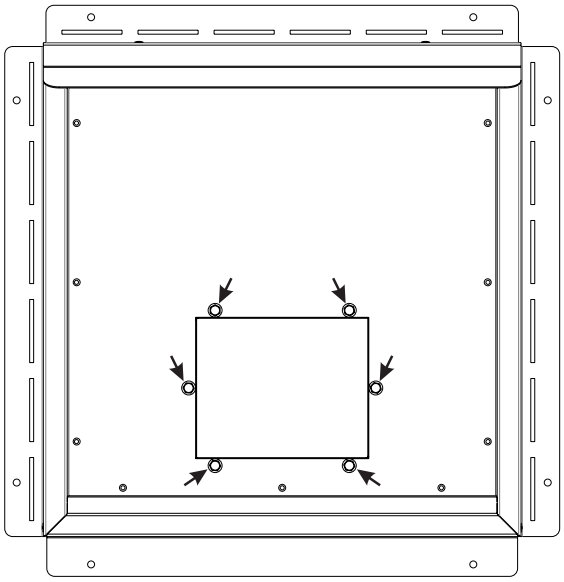


Figure 36

35. Secure the Back Plate to the Outer Termination with (8) # 10 X 1/2" screws. **See Figure 37.** Do not install the upper and lower side screws at this time.

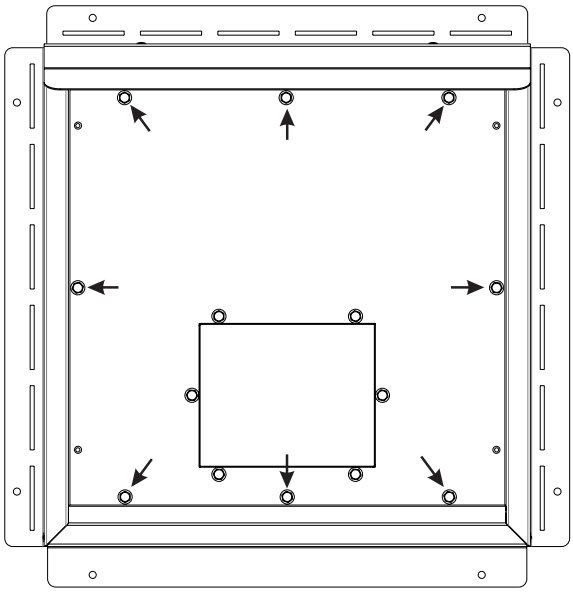


Figure 37

36. To install the Outer Cover and Screen, place the "U" shaped screen inside the Outer Cover, then place the Outer Cover into the Outer Termination frame. Using (4) # 10 X 1/2" screws, secure the Outer Cover to complete the installation. **See Figure 38.**

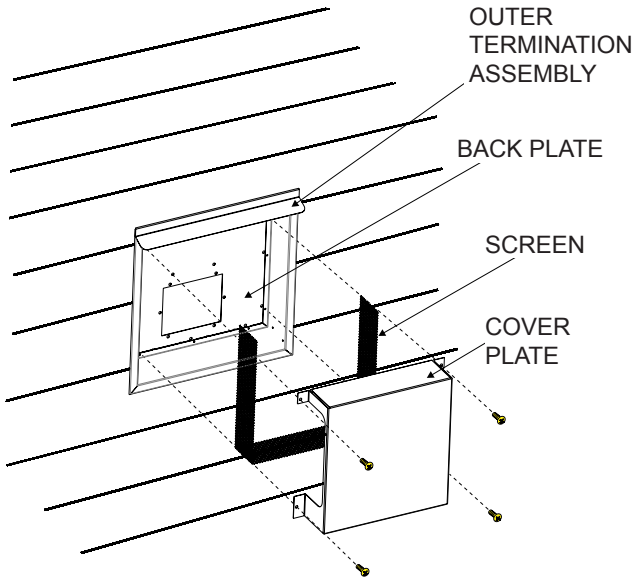


Figure 38

FINISHING
The Outer Termination Assembly is designed to allow exterior combustible finishing materials to be installed around the outer edges of the termination. This provides for J-channel, or other siding materials to be installed up to the termination face. It is the installer(s) responsibility to caulk or seal around the termination to prevent water leakage to the building envelope.

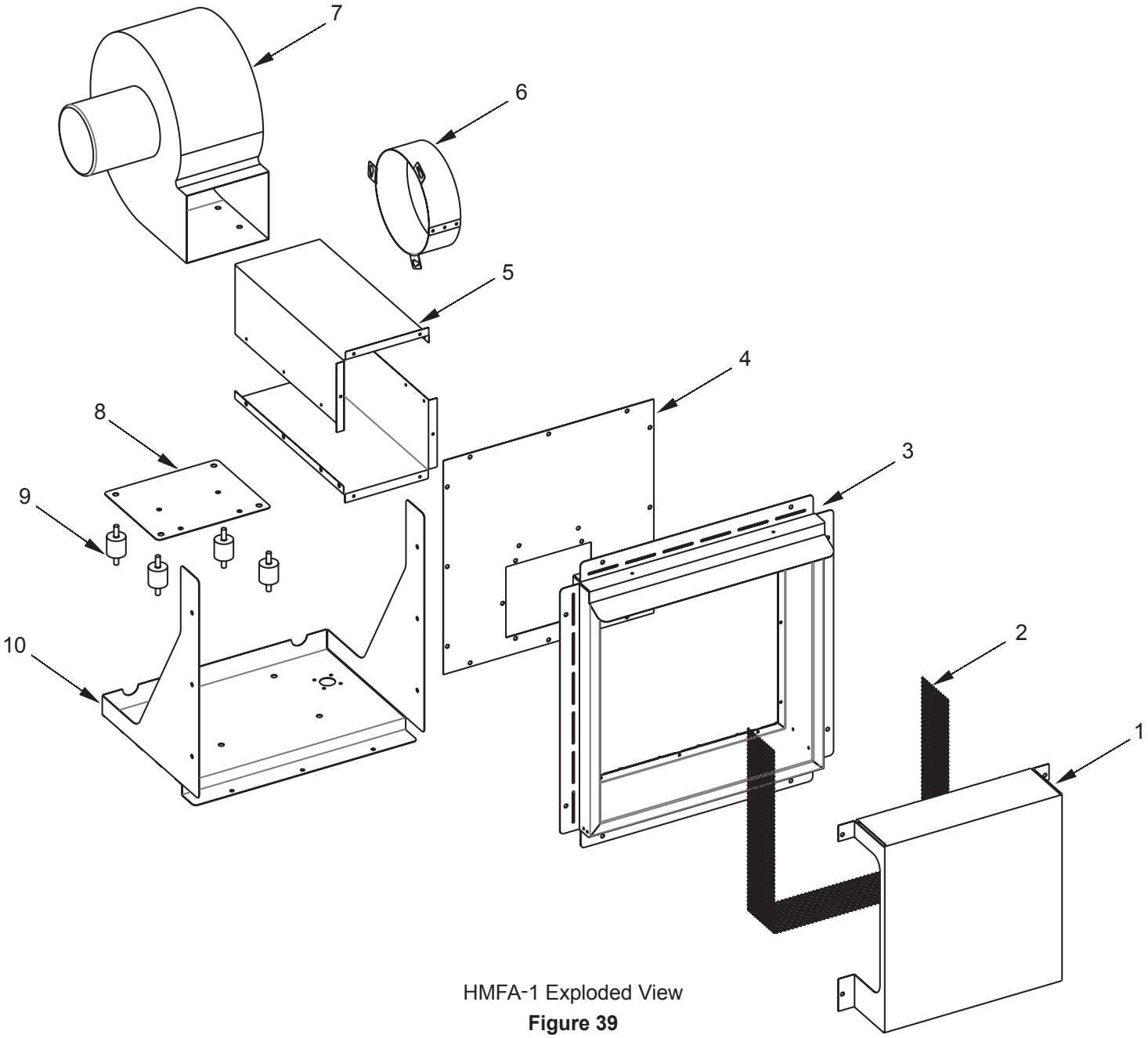
BEFORE FINISHING INTERIOR WALL

After all components are in place and electrical and gas connections have been made, test run the fireplace to make sure that all heat management accessories are operating properly. Listen for resonance or rattles in the flex-vent ductwork, and add strapping to prevent movement if necessary. The flex-vent run and system wiring are not easily servicable after the interior wall is finished.

NOTE: When finishing interior wall, leave the Limit Switch connected to the Wire Harness to prevent wires from falling back inside the wall. Use Limit Switch Plate as a guide to mark holes and attach to wall with wall anchors suitable for chosen finishing material (not included).

HMFA-1 PARTS LIST			
Index Number	**Part Number**	**Description**	**Quantity**
1	42720	Termination Cover Plate	1
2	42648	Screen	1
3	42726	Termination Assembly	1
4	42719	Termination, Back Plate	1
5	42721	Air Duct	2
6	42760	Inlet Collar	1
7	R13212	Blower, P-Tech TTB-3018	1
8	42716	Mounting Plate	1
9	R10856	Spacer, Vibration	4
10	42715	Base, Blower	1
N/S	R13145	Wire Harness, 2 Feet	1
N/S	R13221	Diverter Connector, 6 X 6 X 6 Y-Branch	1
N/S	R13222	Adapter, 6 Inch Flex	1
N/S	R13223	Clamp, 7 Inch Diameter Gear Clamp	4
N/S	R4186	Rheostat	1
N/S	R4192	Knob, Rheostat	1
N/S	42727	Collar, 6 Inch Diameter	2
N/S	42728	Flange, Collar	2
N/S	R11243	Cover, Plate, Junction Box	1
N/S	R1563	Wirenut, Black	2
N/S	R3490	Junction Box	1
N/S	B101569	Screw, # 10 X 1/2" Self Drilling SS	3
N/S	R11686	Drywall Screw, # 8 X 1"	19
N/S	R2737	Screw, # 10 X 1/2" HWH	26

N/S = Not Shown

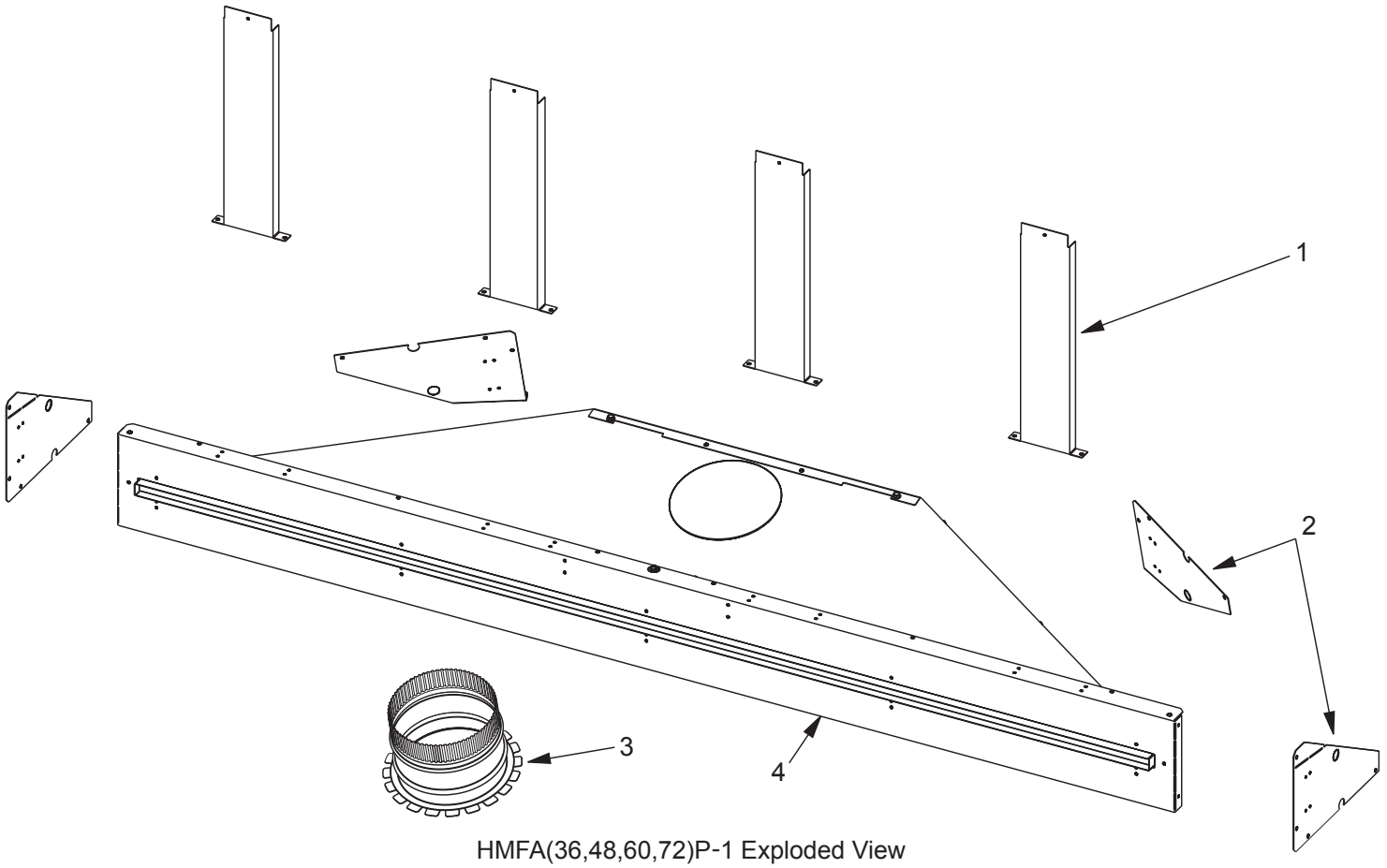


HMFA-1 Exploded View

Figure 39

HMFA(36,48,60,72)P-1 PARTS LIST			
Index Number	**Part Number**	**Description**	**Quantity**
1	42783	Top Standoff	2 (36,48), 4 (60,72)
2	42788	Gusset	4
3	R13208	Connector 6" Dovetail	1
4	N/A	Duct Assembly	1
N/S	N/A	Drywall Screw, No. 8 X 1"	8
N/S	N/A	Screw, No. 10 X 1/2"	16

N/S = Not Shown, N/A = Not Applicable

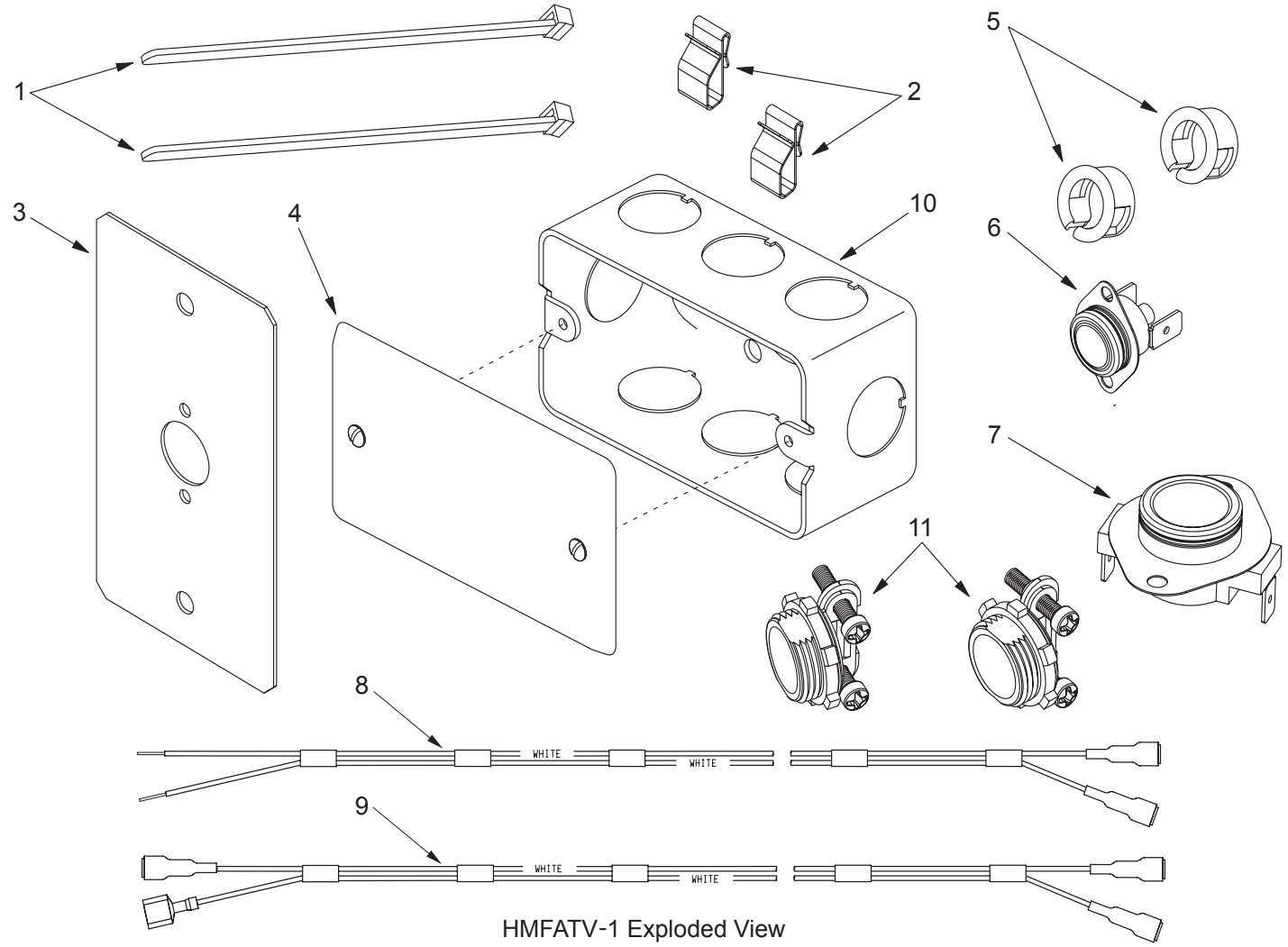


HMFA(36,48,60,72)P-1 Exploded View

Figure 40

HMFATV-1 PARTS LIST			
Index Number	**Part Number**	**Description**	**Quantity**
N/S	N/A	Nut, 10-24	2
N/S	N/A	Screw, 10-24 X 3/4"	2
N/S	N/A	Screw, 4-40 X 3/4"	2
N/S	N/A	Nut, 4-40	2
1	R1148	Zip Tie	4
2	R1569	Wire Clip	2
3	42862	Limit Switch Plate	1
4	R11243	Cover Plate, Plain	1
5	R1536	Wire Bushing, 5/8"	2
6	R13268	Limit Switch, 150 Degree	1
7	R6176	Switch, Fan Control	1
8	R13269	Wire Harness, Switch On	1
9	R13270	Wire Harness, Limit, Off	1
10	R3490	Junction Box	1
11	R7571	Connector, 3/8" Romex	2

N/S = Not Shown, N/A = Not Applicable



HMFATV-1 Exploded View

Figure 41

Empire Comfort Systems Inc.
Belleville, IL

If you have a general question about our products, please e-mail us at info@empirecomfort.com.

If you have a service or repair question, please contact your dealer.

www.empirecomfort.com