



DV Power Vent System Model 7PDVS

WARNING!

IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

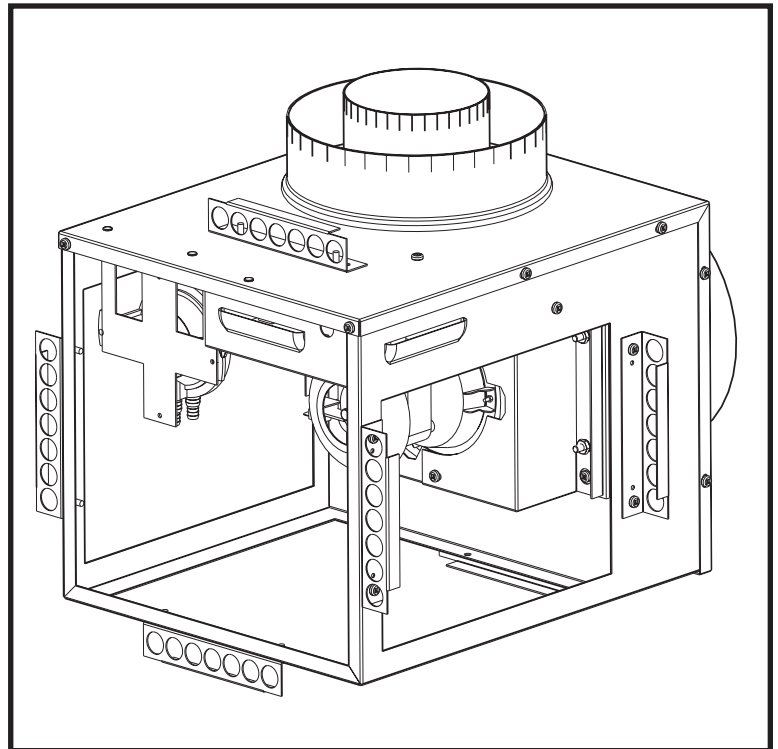
**FOR YOUR SAFETY
WHAT TO DO IF YOU SMELL GAS:**

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Extinguish all flames.
- Immediately call your gas supplier from your neighbours phone. Follow the gas suppliers instructions.
- If you cannot reach your gas supplier call the fire department.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOURS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

- Installation and service must be performed by a qualified installer, service agency or your gas supplier.



Homeowner's Installation and Operating Manual



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

Table of Contents

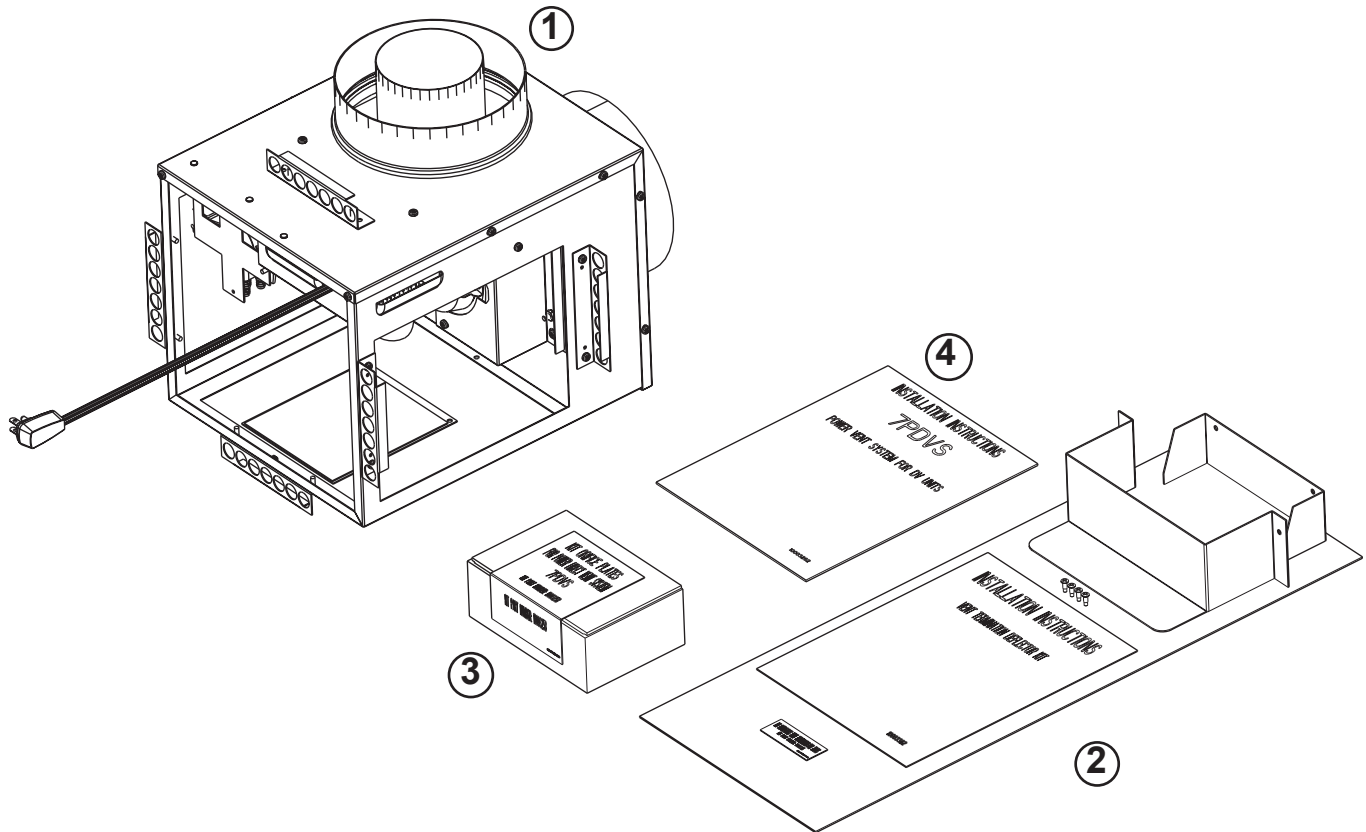
General Information	3
Power System Parts and Description	4
Clearance to Combustibles	5
Restrictor Plate Orifice Size and Models Chart	6
Installing the DV Power Vent System	7
Changing the Restrictor Orifice Plate	7
Install the Vent Pipes and the DV Power Vent System Box	8
Venting Up	9
Venting Down	10
DV Power Vent System Setup	11
Checking the Pressure Switch Position	11
Wire Connections	11
Adding Deflectors to Vent Termination	12
Wiring Diagram (Honeywell Ignition Module)	13
Wiring Diagram (Synetek Ignition Module)	14
Operation Instructions	15
Maintenance	15
Changing the Restrictor Plate Orifice After System is Installed	16
Troubleshooting (Honeywell Electronic Ignitor)	18
Troubleshooting (Synetek Electronic Ignitor)	19
Replacement Parts	20

General Information and Instructions for the DV-Power Vent System Model 7PDVS

- This DV Power Vent System was designed to be used only on units with electronic ignition (EN or EP).
- This DV Power Vent System was certified by CSA to be used only with CFM Corporation Direct Vent models, as listed in this manual.
- This DV Power Vent System can be used with any CFM Corporation side wall vent termination kits, vertical vent termination kits or snorkel kits (rear vent termination not to be used).
- This DV Power Vent System must be installed by a qualified professional according to these instructions.
- Plan the venting layout before starting the installation.
- Maximum TOTAL allowable system length is 40FT of straight pipe, plus up to five 90 degree elbows. Any combination of 45 and 90 degree elbows up to a maximum of 450 degrees is allowed. It is **NOT** permissible to substitute elbows for length of horizontal or vertical straight pipe.
- Can be vented down to a maximum of 12FT, measured from the center line of the highest section to the centre line of the lowest section between the fireplace and the DV Power Vent box.
- Minimum vent length of straight pipe between fireplace and the DV Power Vent box is:
 - 10 feet for units with input up to 33,000BTU/h;
 - 15 feet for units with inputs from 33,000BTU/h to 40,000BTU/h.
- Maximum vent length of straight pipe between the DV Power Vent System box and the vent termination is 6 FT.
- Only vent components manufactured by CFM Corporation are approved for use with this DV Power Vent System.
- All 4" and 7" venting connections (twist-lock or crimped ends) to be sealed with high temperature silicone.
- The 4" and 7" pipes connected to the inlet side of the DV Power Vent System box to be fitted inside the 4" pipe and the 7" collar.
- Leave a permanent access for inspection and service of the DV Power Vent System box.
- Confined area definition: when the distance of the four walls around the sides of the Power Vent Box to the stand-offs is 3" or less in average.
- When the DV Power Vent box is installed in a confined area, the access door needs to have a minimum size of 12" X 12" and it must be ventilated with a minimum of 10% open area. In a confined area installation a minimum distance of 12" (1FT), needs to be left between the Power Vent Box and the fifth wall. (Refer to Figures on Page 5).
- When the DV Power Vent box is installed in an unconfined area, the access door doesn't need to be ventilated.
- The power vent motor shaft **MUST ALWAYS BE** oriented horizontally for proper operation.
- The pressure switch diaphragm **MUST ALWAYS BE**, in a vertical position and the hose connection pointing down, **NEVER** up.
- Disconnect power supply when installing or servicing the fireplace or the power vent system.

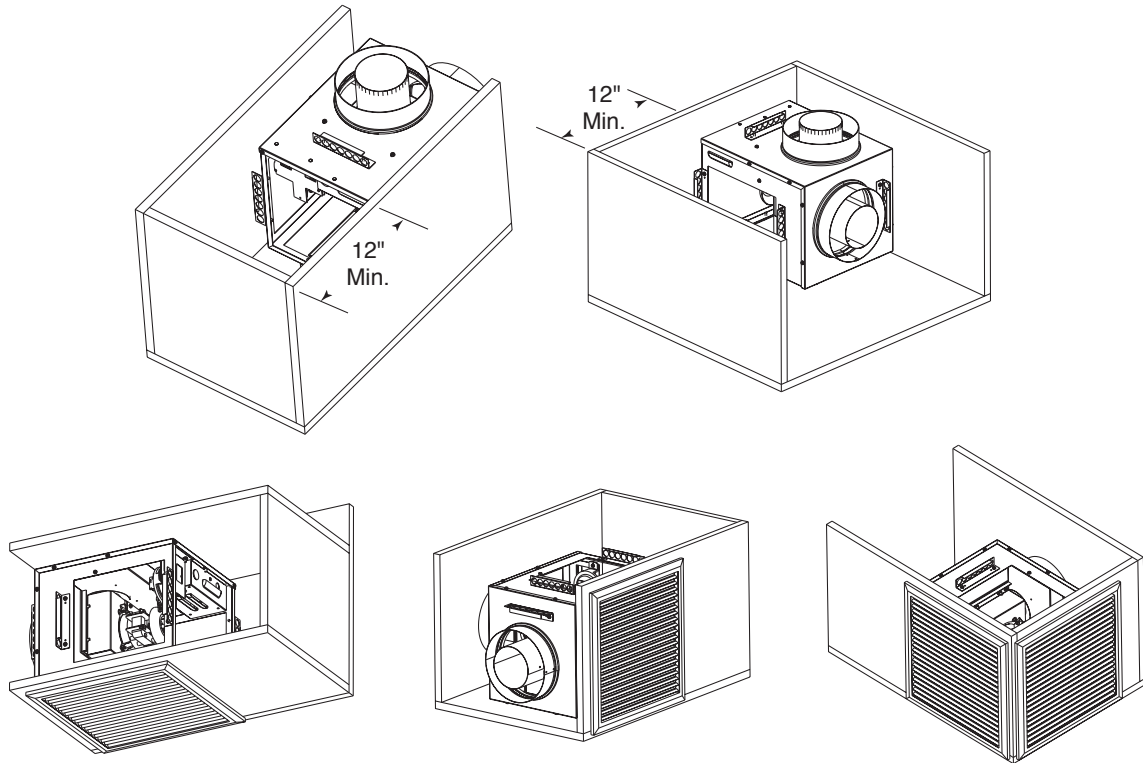
DV Power Vent System Parts and Description:

1. DV POWER VENT box assembled with a 6FT power cord.
2. Two deflectors to be added to the side wall vent termination.
3. Assorted restrictor orifice plates to be used according to the instructions for specific models.
4. Installation and Operating Instruction Manual.



Clearance to Combustible Materials and Access Door

- The DV Power Vent System box needs a minimum 1" clearance all around the box. The DV Power Vent System box already has a 1" stand-off on all sides.
- Pipes from the fireplace to the DV Power Vent System box and from the box to the vent termination need:
 - Clearance to combustible materials of 1" all around the pipe on vertical sections.
 - Clearance to combustible materials of 1" on sides and bottom, and 2" on the top of horizontal sections.



Confined Area Access Door Suggestions

Restrictor Orifice Sizes and Models

After you plan the venting lay-out and before the installation of the power vent box, check the following chart to make sure the correct orifice is installed.

The power vent box is shipped with the 29/32" restrictor plate orifice in place, used for 36LDVT or 36LDVR models. For all other models, replace the restrictor plate orifice with the correct size according to the following chart:

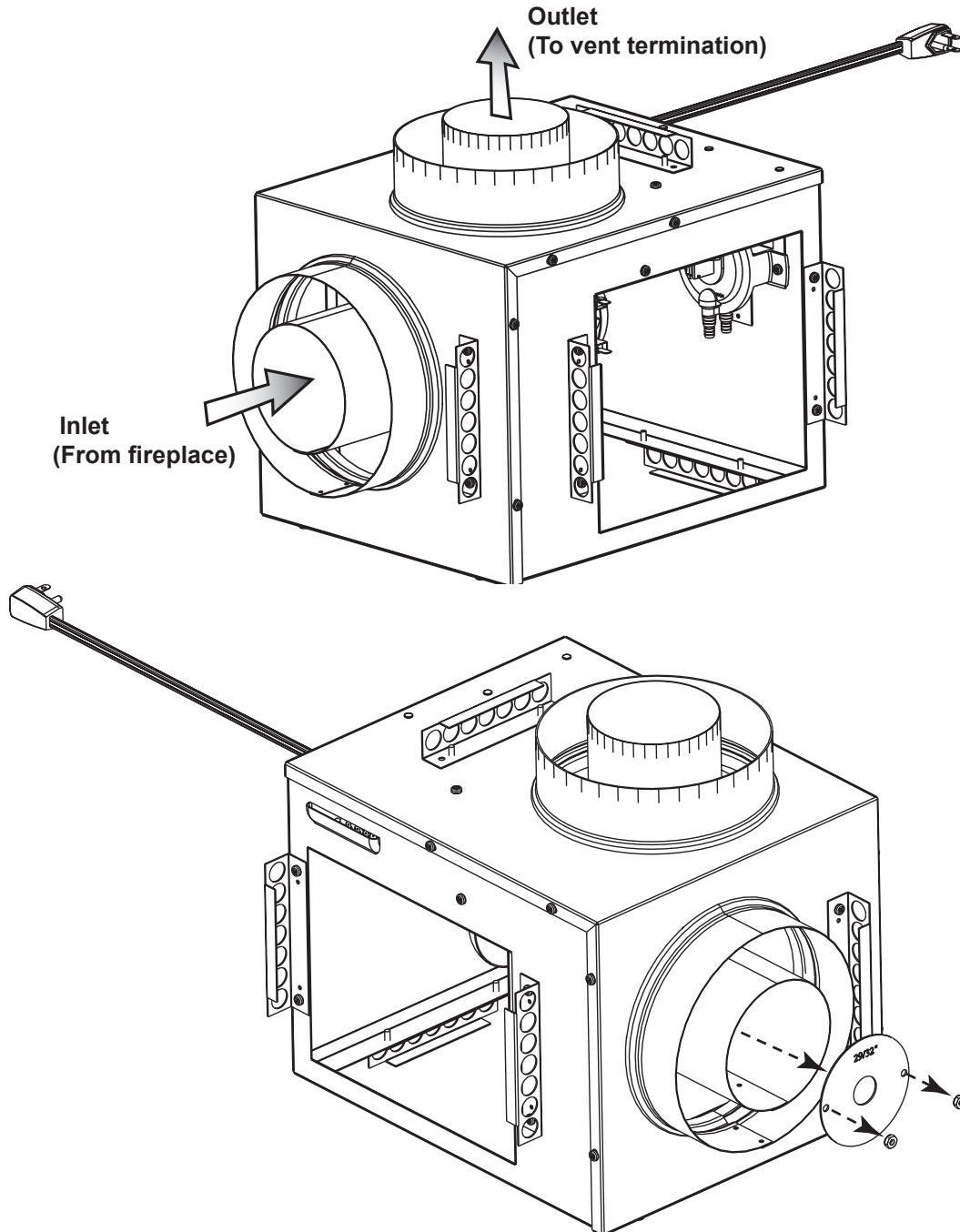
Models	Input (BTU/h)	Restrictor Orifice Size
33BDVT or 33BDVR	15,000	23/32"
36BDVT or 36BDVR	18,000	29/32"
DVR33	20,000	31/32"
39BDVT or 39BDVR	22,000	31/32"
43BDVT or 43BDVR	25,000	1"
DVRT36	25,000	1"
DV360	30,000	1 ¹ / ₃₂ "
DVRT39	30,000	1 ¹ / ₃₂ "
DVRT43	33,000	1 ¹ / ₁₆ "
360DVS2 or 360DVS3 or 360DVSL or 360DVSR	38,000	1 ¹ / ₄ "
DV580	38,000	1 ¹ / ₄ "
33LDVR or 33LDVT	16,000	29/32"
36LDVR or 36LDVT	19,500	29/32"
39LDVR or 39LDVT (NG)	23,000	31/32"
39LDVR or 39LDVT (LP)	22,500	31/32"
43LDVR or 43LDVT (NG)	26,000	1"
43LDVR or 43LDVT (LP)	24,000	1"
33XDVR	21,500	31/32"
33XDV	21,500	31/32"
36XDV	27,500	1 ³ / ₈ "
39XDV	31,000	1 ¹ / ₃₂ "

Installing the DV Power Vent System

1-Changing the Restrictor Orifice Plate:

Before installation of the power vent box (RECOMMENDED):

- A. From the inlet side, remove the two 3/8" nuts holding the orifice plate.
- B. Remove the orifice plate.
- C. Install the correct restrictor orifice plate according to the chart above.
- D. Place back the two nuts to hold the restrictor orifice plate and tighten.

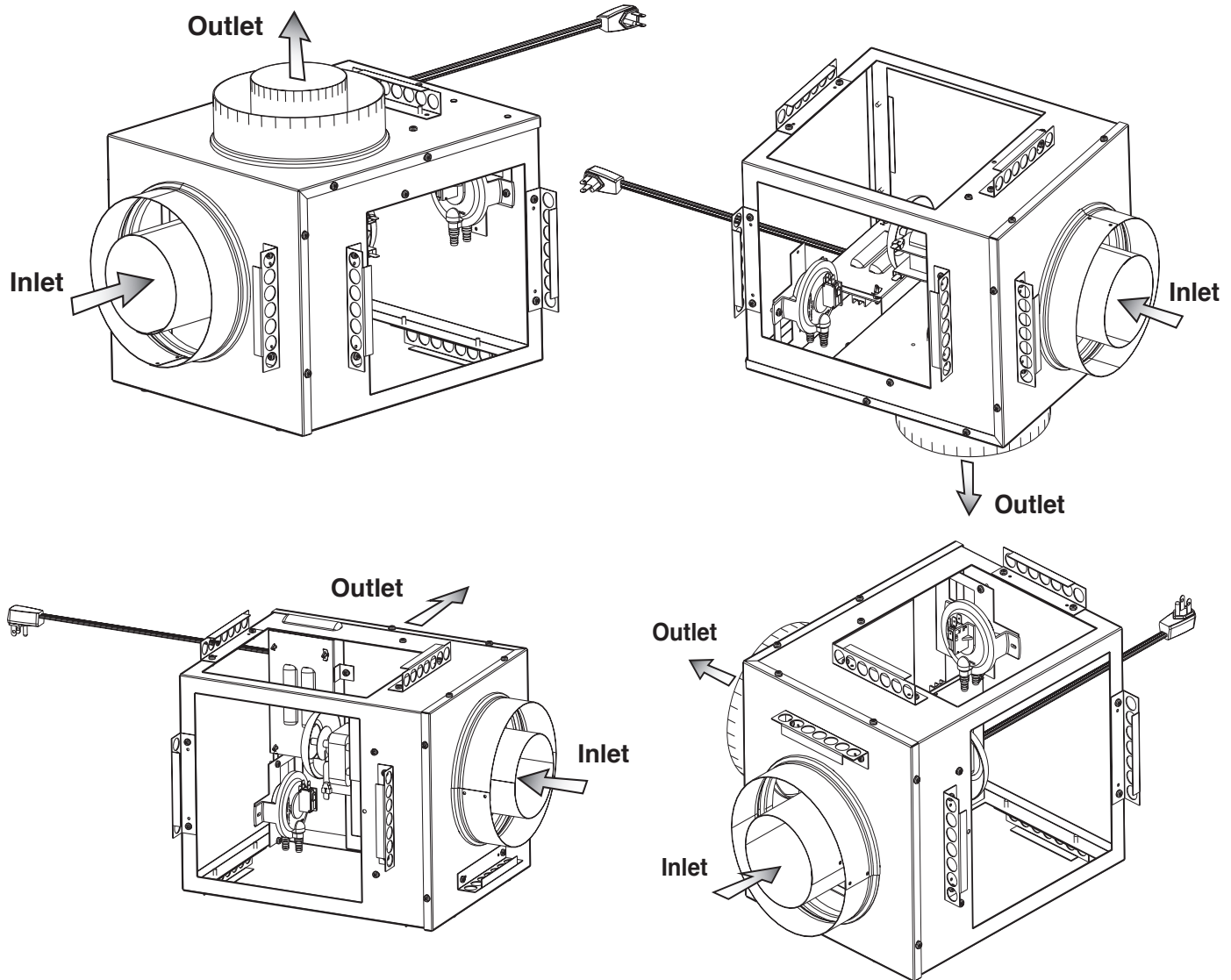


2-Install the Vent Pipes and the DV Power Vent System Box:

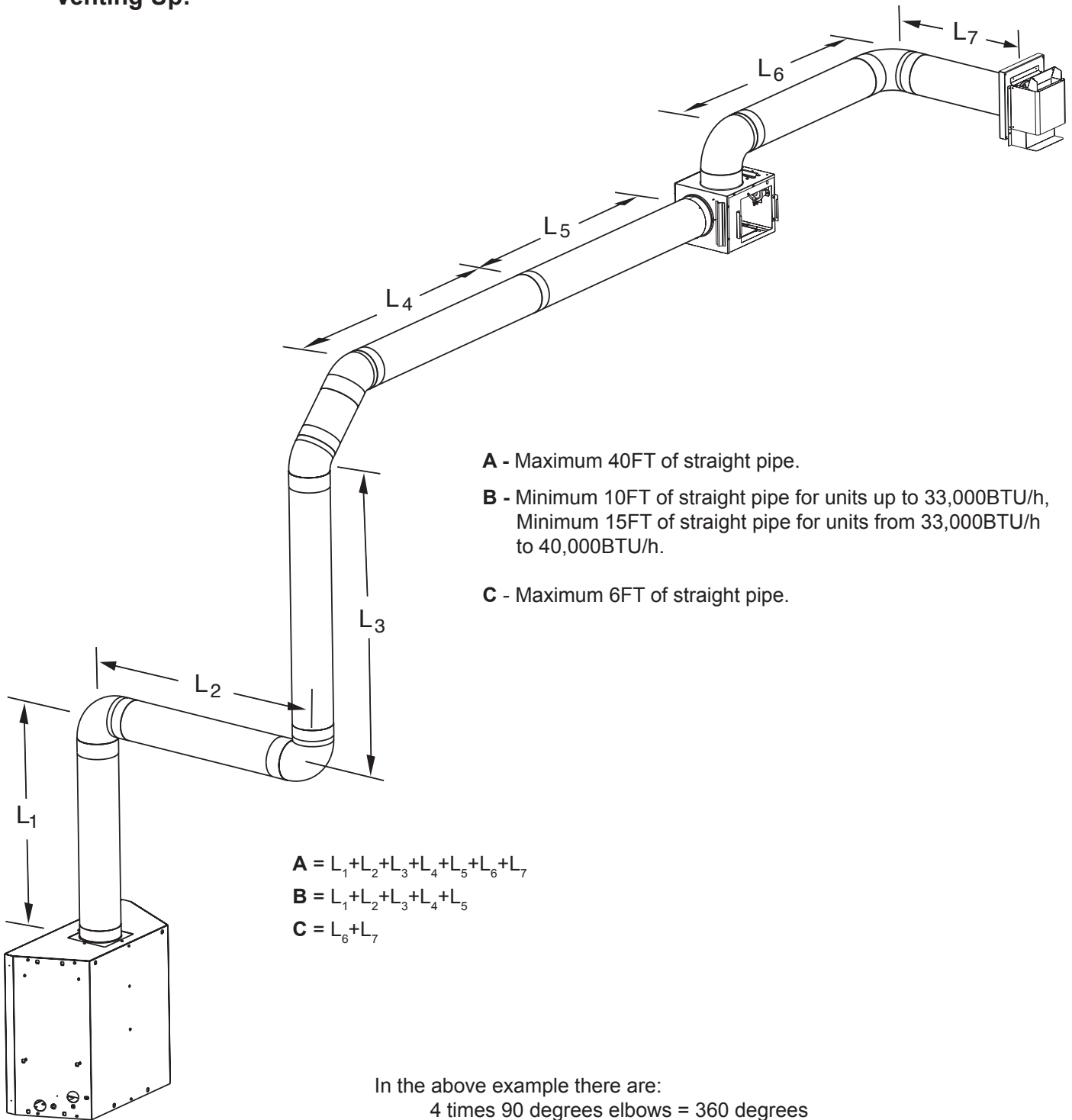
Install pipes and elbows according to the lay-out from the unit to the Power Vent System Box and from it to the vent termination. Follow the vent installation according to the fireplace manual recommendations.

Remember that the blower shaft **MUST ALWAYS BE** in a horizontal plane and the pressure switch diaphragm **MUST ALWAYS BE** in a vertical plane with the hose connections pointing down.

Four different ways to install the Power Vent System Box.



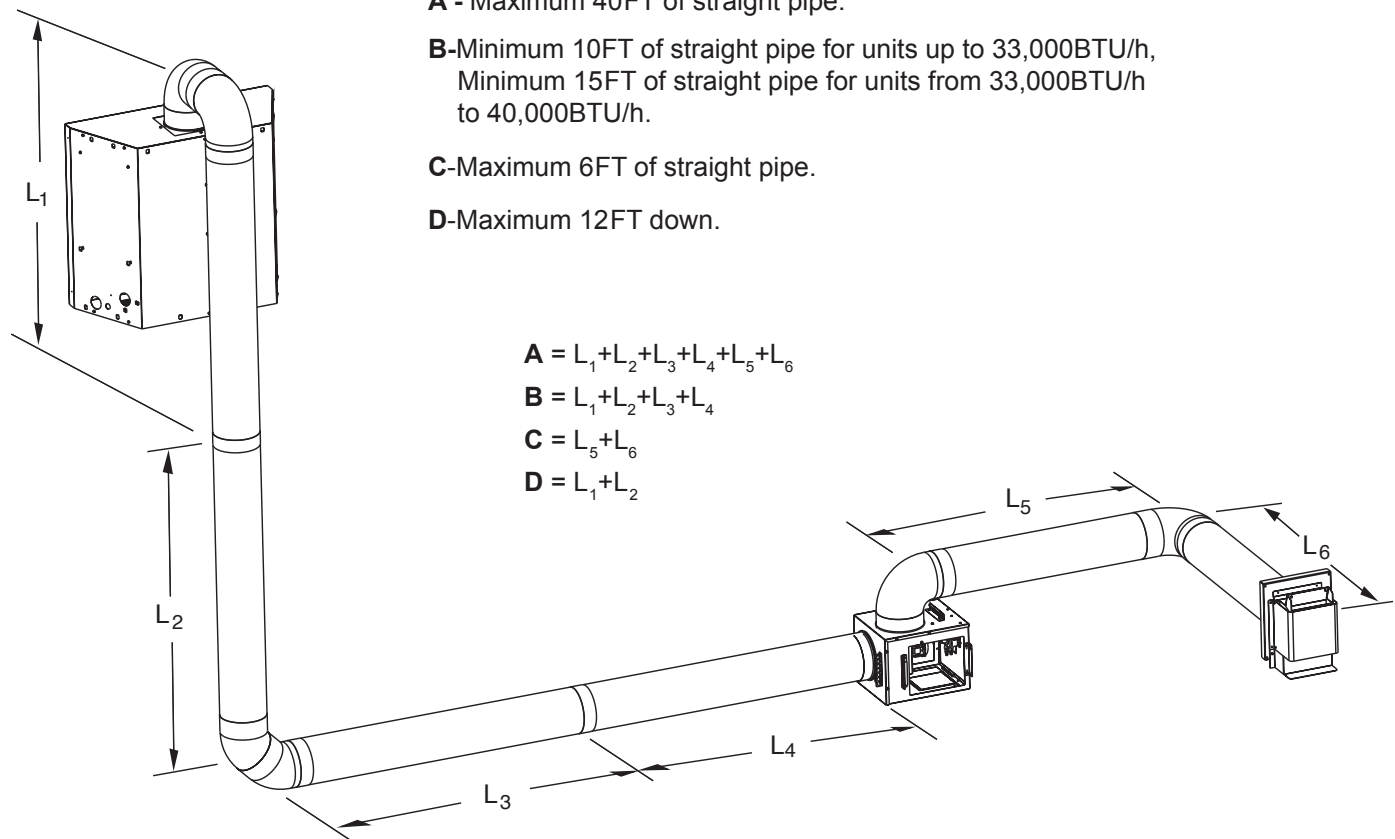
Venting Up:



In the above example there are:
 4 times 90 degrees elbows = 360 degrees
 2 times 45 degrees elbows = 90 degrees
 Total elbow degrees = 450 degrees

Installation is OK

Venting Down:



- A** - Maximum 40FT of straight pipe.
- B**-Minimum 10FT of straight pipe for units up to 33,000BTU/h,
Minimum 15FT of straight pipe for units from 33,000BTU/h to 40,000BTU/h.
- C**-Maximum 6FT of straight pipe.
- D**-Maximum 12FT down.

In the above example there are:
 4 times 90 degrees elbows = 360 degrees
 2 times 45 degrees elbows = 90 degrees
 Total elbow degrees = 450 degrees

Installation is OK

3- DV Power Vent System Setup:

3.1 - Checking the Pressure Switch Position:

The pressure switch diaphragm must be in a vertical plane.

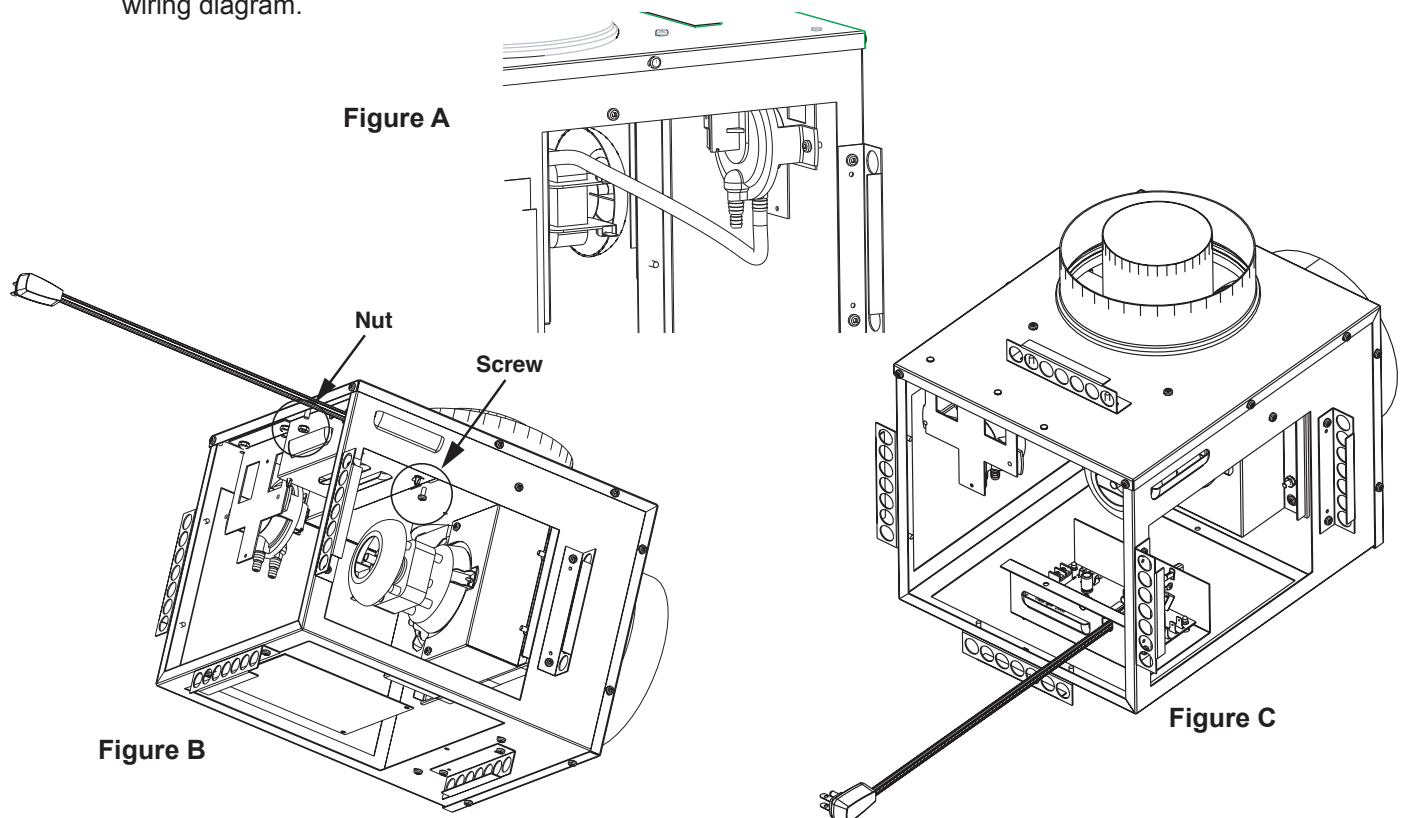
The pressure switch hose connections should NEVER point up. The BEST position is pointing down, but can be pointed to the sides.

Depending on the final location of the DV Power Vent System box, the pressure switch hose connection needs to be checked. If the hose connection position needs to be adjusted, follow these steps:

1. Check the pressure switch location;
2. If the hose connection is pointing down, you do not need to change the pressure switch position;
3. If the hose connection location needs to be adjusted, remove the two screws holding the pressure switch to the bracket.
4. Rotate the pressure switch clockwise or counterclockwise (whichever is better to reach the new position);
5. Re-attach the pressure switch to the bracket with the same screws removed in Step 4.
6. Check all wire connections according to the wiring diagram.
7. Check hose connections between the pressure switch and the blower. Make sure the hose is not kinked.
(Refer to Figure A)

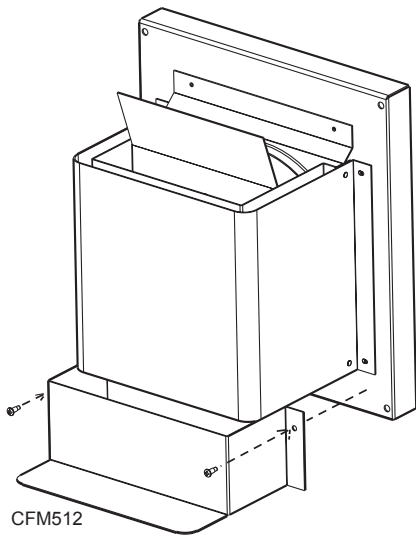
3.2 - Wire Connections:

- Remove one screw and one nut that are holding the circuit board cover in place. (Refer to Figure B) Bring the cover, with the circuit board, the power cord and all the existing wires attached to it, to a rest position. (Refer to Figure C)
- Make all connections between the DV Power System box and the unit according to the wiring diagram. Use 18 gauge AWS wire with minimum 2/64" insulation.
- For connections to the circuit board, use 3/16" Quick Connect female spade terminals, all others are screwed connections.
- The DV Power Vent System can be hard wired. To hard wire the DV Power Vent System, disconnect the power cord from the circuit board and replace it with hard wiring according to the connections shown in the wiring diagram.

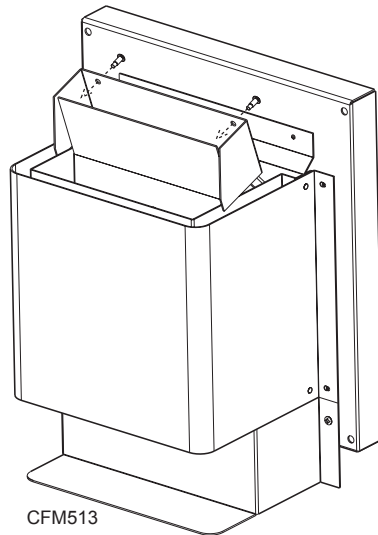


3.3 - Adding Deflectors to the Side Wall Vent Termination:

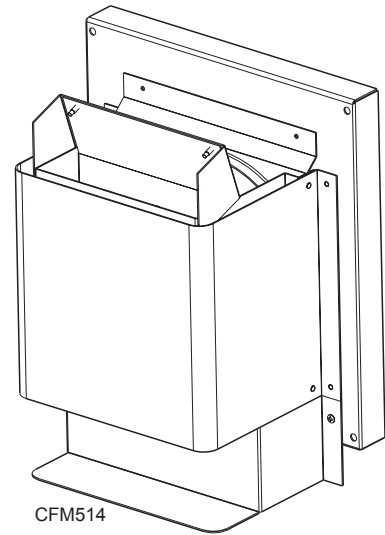
1. Open the plastic bag and check all components.
(One Top Deflector, one Bottom Deflector, four self-tapping screws)
2. Install the bottom deflector using two screws provided with the kit. Refer to Figure A.
3. Open the top screen and install the top deflector. Refer to Figure B. Attach the top deflector using two screws provided with the kit.
4. After installing the top and bottom deflectors the vent termination should look like Figure C.
5. Close the top screen to the same way it was before.



A

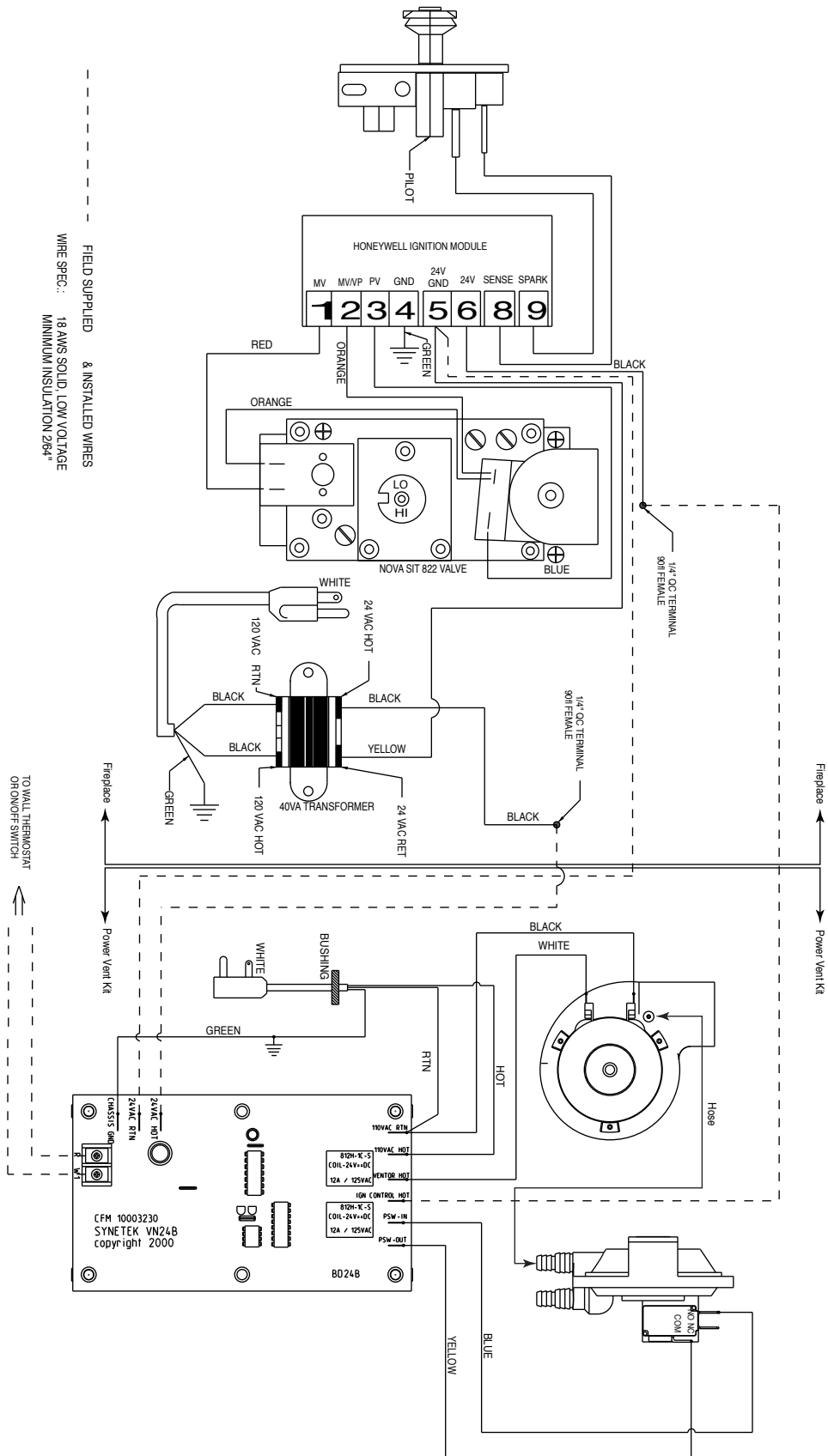


B

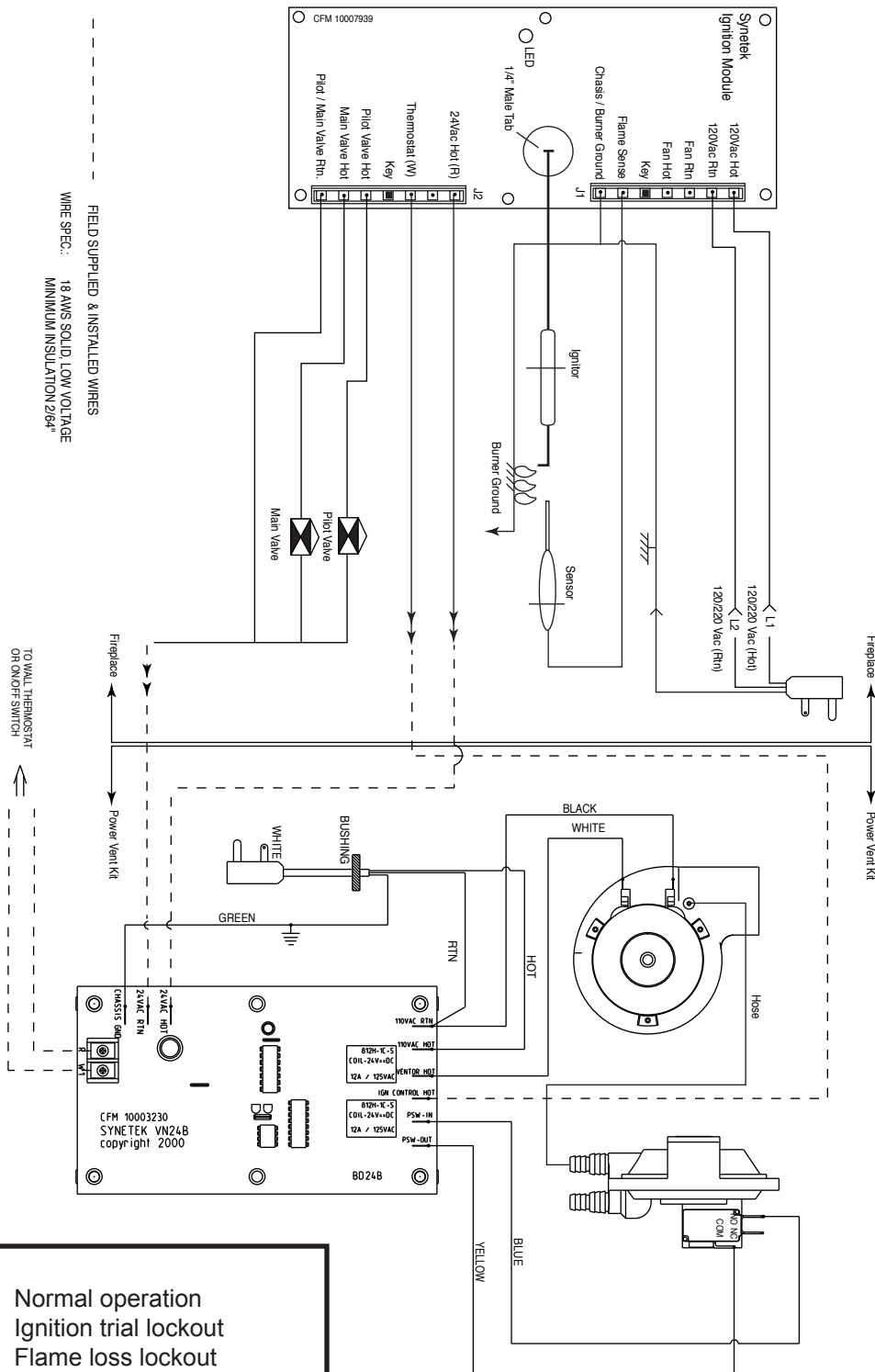


C

Wiring Diagram (Honeywell Ignition Module)



Wiring Diagram (Synetek Ignition Module)



LED Codes

- ON Normal operation
- 2 Flash Ignition trial lockout
- 3 Flash Flame loss lockout
- 5 Flash 120V AC reversed polarity
or board not sensing ground
- Steady Flash Flame detected out of al-
lowed sequence or internal
fault, hardware error

Operation of the DV Power Vent System

Turn the switch ON/OFF or the wall thermostat, to the ON position.

Blower will start immediately and will purge the unit and the vent system for 45 seconds. At that point, the pilot will light and the main burner(s) will follow.

When the switch ON/OFF or the wall thermostat, is turned to OFF, the main burner and the pilot will shut-down immediately and the blower will run for 45 seconds to clear the flue gases before turning OFF.

If the unit is ON but the flame is unstable (ON and OFF continuously), turn the switch to the OFF position and call a serviceman to check the installation.

Maintenance

The DV Power Vent System box is a maintenance free system. The motor bearings are pre-lubricated for extended life and no further lubrication is required.

It is recommended however to have the system checked once a year by a qualified professional.

Changing the Orifice Plate After the DV Power Vent Box is Installed

If there is a need to change the restrictor plate orifice on the DV Power Vent System box, follow the steps below:

- A. Turn the power OFF to fireplace and power vent.
- B. Remove the blower's cover (two parts):
 - Remove the hose attached to the blower casing.
 - Remove two screws. Refer to Figure A.
 - Remove two nuts from the right side cover.
 - Remove the right side cover by pulling it out. Refer to Figure B.
 - Remove two nuts from the left side cover.
 - Remove the left side cover by pulling it out. Refer to Figure C.
- C. Remove the two nuts that hold the pressure switch bracket. Do not disconnect any wire or the hose. Just bring the pressure switch still attached to the bracket to a rest position, to give you access to the screws that hold the blower bracket. Refer to Figure D.
- D. Disconnect the wires from the blower.
- E. Remove the four screws that hold the blower bracket. Be careful not to drop the blower.
- F. Slide down the blower to release it from the top extrusion and carefully bring the sub-assembly (blower with the bracket and the gasket) to the outside of the box to replace the orifice; Be careful not to damage the gasket, otherwise you will have to replace it. Refer to Figure E.
- G. Remove the two 3/8" nuts holding the orifice plate. Refer to Figure F.
- H. Get from the orifice plate kit the correct restrictor orifice size for the unit you are installing (check chart for restrictor orifice size X unit model).
- I. Install the correct orifice plate into the same location as the previous one.
- J. Place back the two nuts.
- K. Reinstall the blower. Make sure the exhaust of the blower is properly inserted into the opening.
- L. Re-attach the blower bracket with the four screws removed in step "C".
- M. Connect the wires to the blower (see wiring diagram).
- N. Re-attach the pressure switch to the original position and secure the two nuts removed in step "B".
- O. Re-install both covers to the blower:
 - Install the left side and secure it with the nuts.
 - Install the right side and secure it with the nuts.
 - Re-attach the two screws.
 - Re-attach the hose to the blower connection.
- P. Check all wires according to the wiring diagram and the hose connections to make sure everything is properly in place.

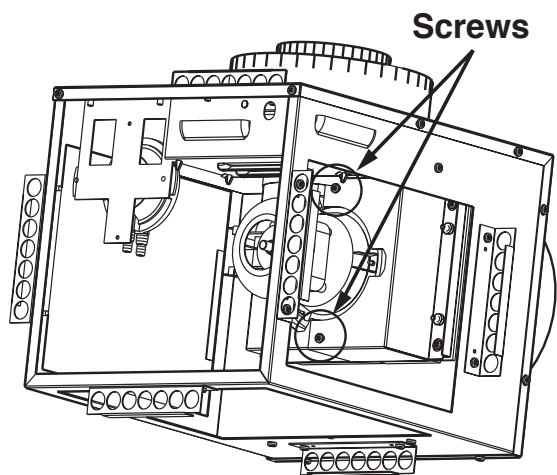


Figure A

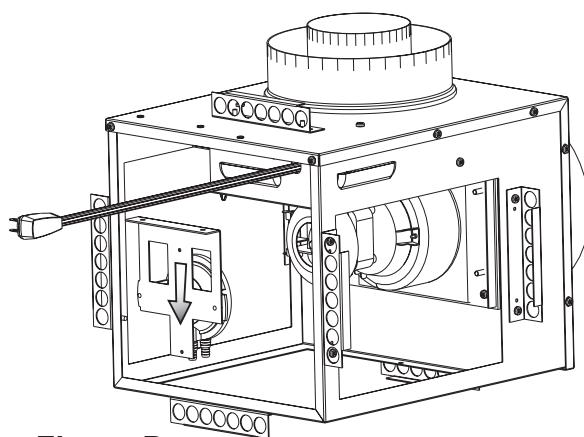


Figure D

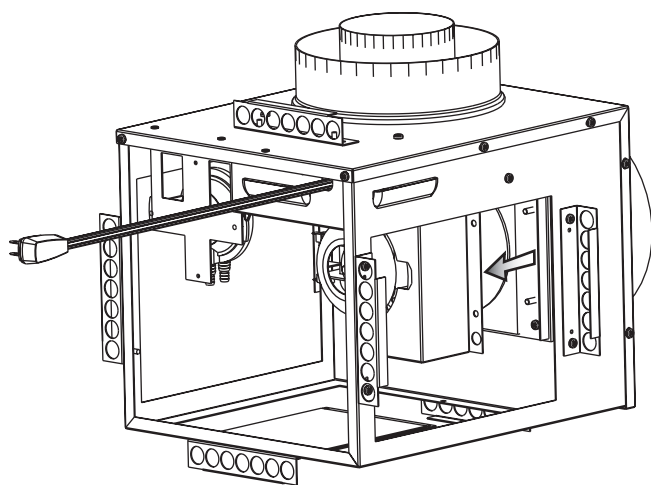


Figure B

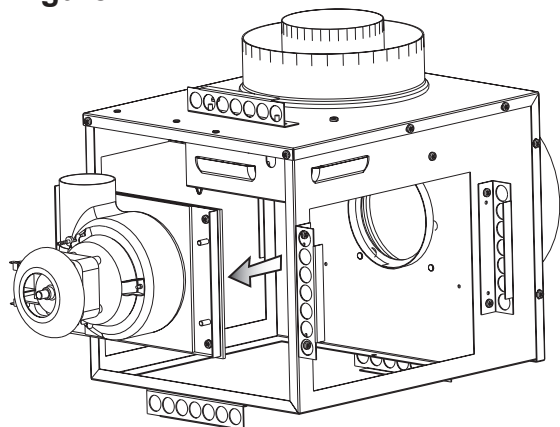


Figure E

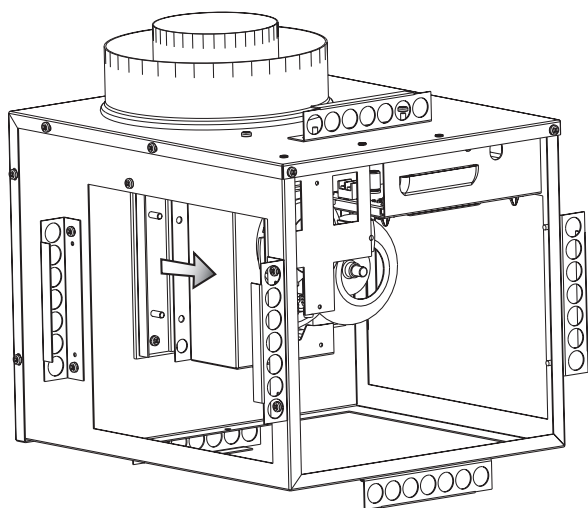


Figure C

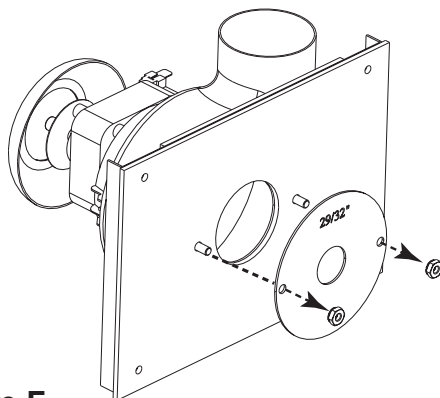
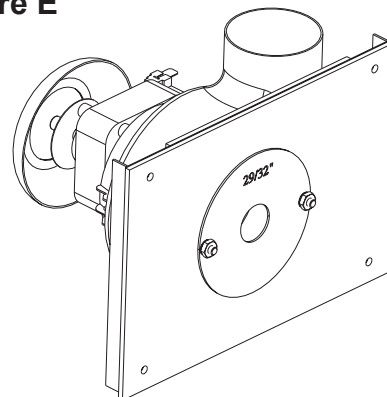


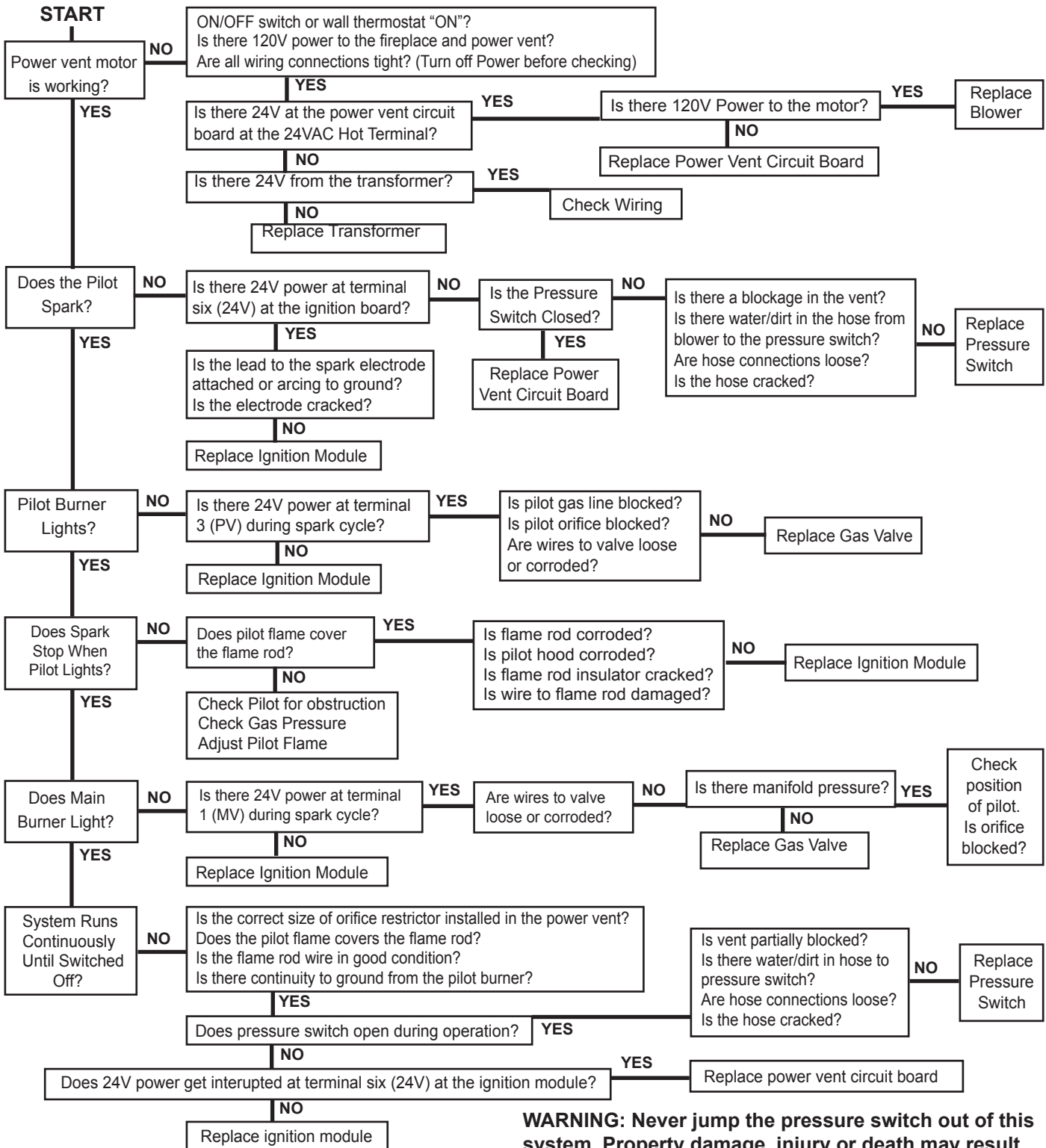
Figure F

Troubleshooting the Power Vent System

SIT 822 Valve with Honeywell Electronic Ignitor and Synetek Power Vent Board Service must be performed by a qualified installer, service agency or your gas supplier.

BEFORE COMMENCING TO TROUBLE SHOOT THE UNIT:

1. Check if there is power to the unit (fireplace) and to the power vent box.
2. Check if there is gas to the unit (fireplace).
3. The ignition control in the fireplace is equipped with a lockout device which will put the unit into a lockout condition after three attempts to ignite the pilot. Follow the steps in the chart below to reset the control: Turn the On/Off switch to the off position, or turn the thermostat to the off position. Wait 10 seconds and then turn to the "on" position.
4. If this is the first time that the unit has been fired, check the wiring of the unit against the wiring diagram before commencing troubleshooting.



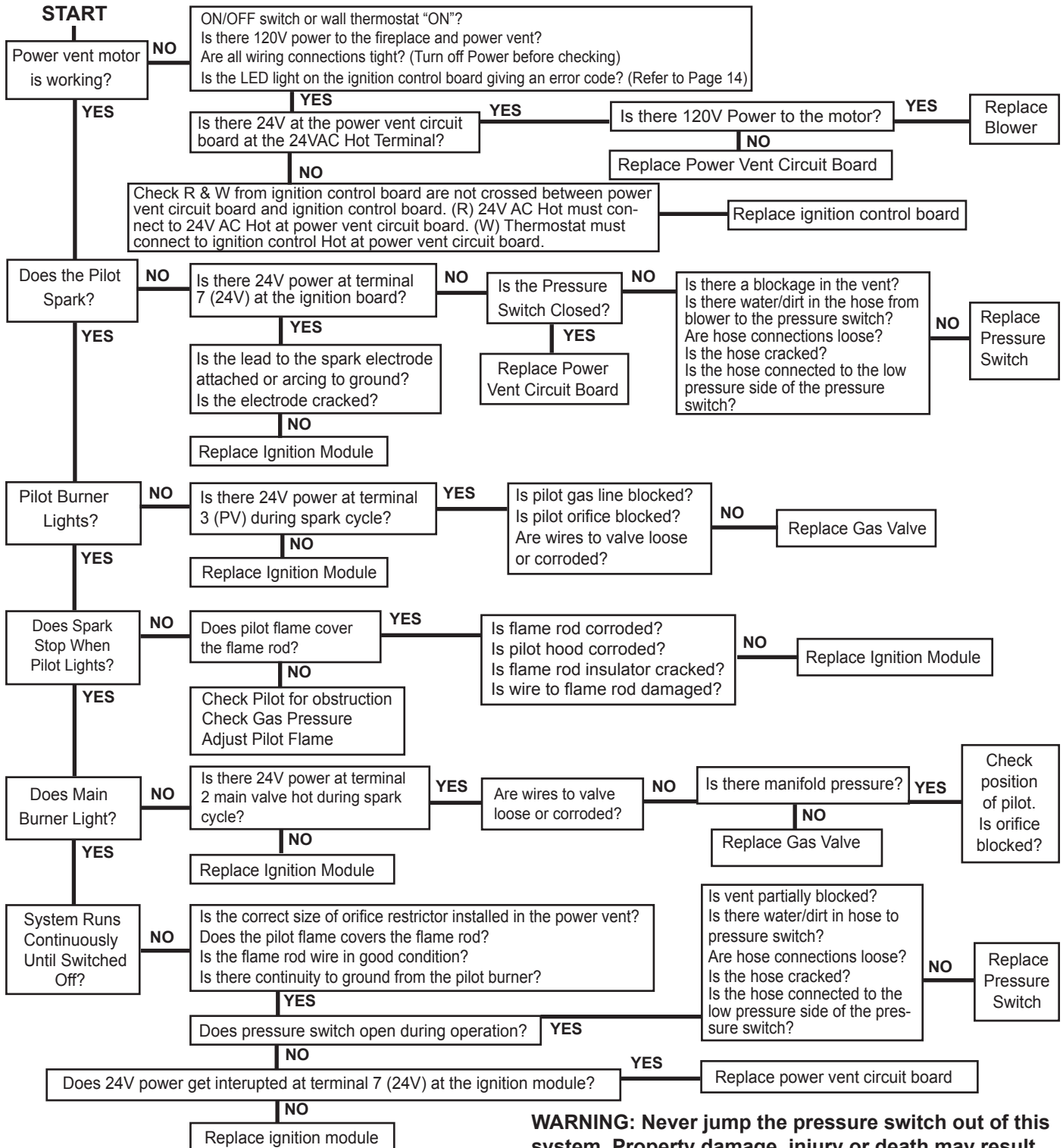
WARNING: Never jump the pressure switch out of this system. Property damage, injury or death may result.

Troubleshooting the Power Vent System

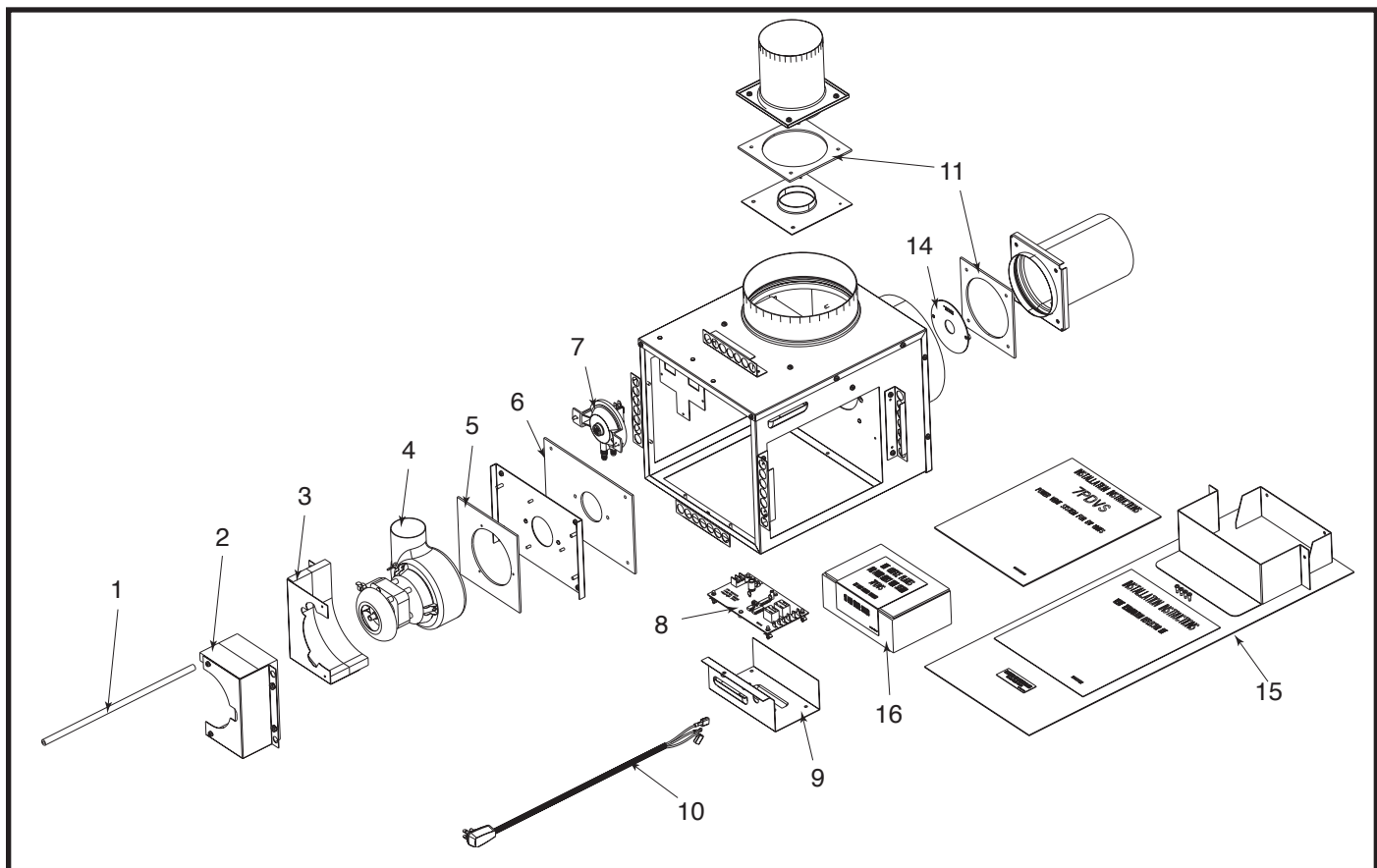
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CFM Corporation reserves the right to make changes in design, materials, specifications, prices and discontinue colors and products at any time, without notice.

7PDVS DV Power Vent System

Ref.	Description	7PDVS
1.	Hose High Temperature	10003405
2.	Shield Heat Blower Right Assy	10003673
3.	Shield Heat Blower Left Assy	10003672
4.	Blower	10003214
5.	Gasket Blower	10003066
6.	Gasket Blower Plate	10002280
7.	Pressure Switch	10003213
8.	Circuit Board	10003230
9.	Cover Circuit Board	10003610
10.	Power Cord	10003095
11.	Gasket Flue Pipe	10002237
12.	Hose Clamp (Not Shown)	10003267
13.	Wires (Circuit Board To Pressure Switch And Blower) (Not Shown)	10003317
14.	Plate Restriction Orifice Size 29/32"	10003260
15.	Kit Deflector Vent Termination	10003315
16.	Kit Orifice Plates (Includes Items 17 To 25)	10003258
17.	Plate Restriction Orifice Size 23/32"	10002274
18.	Plate Restriction Orifice Size 25/32"	10004194
19.	Plate Restriction Orifice Size 27/32"	10004195

7PDVS DV Power Vent System (continued)

Ref.	Description	7PDVS
20.	Plate Restriction Orifice Size 31/32"	10003261
21.	Plate Restriction Orifice Size 1"	10003277
22.	Plate Restriction Orifice Size 1 1/32"	10003328
23.	Plate Restriction Orifice Size 1 1/16"	10003329
24.	Plate Restriction Orifice Size 1 1/4"	10003499
25.	Plate Restriction Orifice Size 1 3/8"	10009616

CFM Corporation

2695 Meadowvale Blvd. • Mississauga, Ontario, Canada L5N 8A3
800-668-5323 • www.cfmcorp.com