MODEL SWG-4L GAS FIRED SIDE WALL VENTING KIT FOR LENNOX G23, G24M, AND 80MGF SERIES UNITS

ITEMS INCLUDED IN KIT:
1 - ETL listed SWGII-4HD Sidewall Power Venter  
1 - CK-43 Control Kit with 4" MGl Barometric Draft Control

OPTIONAL SYSTEM COMPONENTS:

SWG Series Through-Wall Extension Kit:  
For installation in wall thickness over 8 inches. Models PEK-4 through PEK-8 are available.

GENERAL SYSTEM OPERATION:

Designed for operation with natural gas and LP gas.

1. The thermostat calls for heat and energizes a relay which activates the power venter. After the venter motor has come up to speed, the pressure switch closes. This closes the circuit to the burner and allows the burner to fire.

2. After the heating requirement has been satisfied, the thermostat circuit will open and de-activate the burner and power venter circuit.

3. The power venter operates for a period of time after the burner has shut off to purge remaining flue gases.

DO NOT DESTROY

THESE INSTRUCTIONS MUST REMAIN WITH EQUIPMENT

FIELD CONTROLS
THE VENTING SOLUTIONS COMPANY

2630 Airport Road • Kinston, NC 28504
TECHNICAL SUPPORT (800) 742-8368
INSTALLATION SAFETY INSTRUCTIONS:

CAUTION: This device must be installed by a qualified installer in accordance with the manufacturer's installation instructions. Appliances should have a minimum of 75% combustion efficiency or have a maximum measured flue gas temperature of 550°F at the inlet of the power venter.

1. The power venting system must be installed by a qualified installer. "Qualified Installer" shall mean an individual who has been properly trained or a licensed installer. The installer must write or imprint his name, phone number and date of installation on the installation tag. The tag should be attached to the power venting system control kit box or power venter unit.

2. Safety inspection of a venting system should be performed before and after installing a power venting system on an existing or new appliance. Procedures to follow are those recommended by the National Fuel Gas Code, A.N.S.I.Z223.1, CGA Standard B149.1-M91 or B149.2-M91 or refer to the General Installation Inspection section of this manual.

3. Plan the vent system layout before installation to avoid the possibility of accidental contact with concealed wiring or plumbing inside walls.

4. Single wall vent pipe (refer to Diagram B) may be used to join an appliance to the venting system, but if proper clearances cannot be maintained from combustible materials, Class B Vent Pipe should be used. Refer to national or local codes for guidelines.

5. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.

6. This equipment is designed to overcome minor negative pressure conditions. To ensure extreme negative pressure does not exist, follow the General Installation Inspection section of this manual.

7. Air flow adjustment MUST be made to ensure appliance efficiency. This should be done at the appliance exhaust outlet with a velocity meter, draft gauge or by "match test procedure". A match test is in accordance with National Fuel Gas Code A.N.S.I.Z223.1, Section 8.6. Note: There is no "match test" or equivalent procedure for Canadian Applications.

8. Adhere "Maximum/Minimum Vent Pipe Length" label on side of appliance in a conspicuous location.

<table>
<thead>
<tr>
<th>BTU/HR INPUT</th>
<th>DIAMETER OF VENT PIPE COLLAR ON FURNACE</th>
<th>INSTALLER PROVIDED FLUE PIPE TRANSITION SIZE DIAMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>45,000*</td>
<td>3&quot;</td>
<td>3&quot; TO 4&quot;</td>
</tr>
<tr>
<td>50,000</td>
<td>3&quot;</td>
<td>3&quot; TO 4&quot;</td>
</tr>
<tr>
<td>60,000*</td>
<td>3&quot;</td>
<td>3&quot; TO 4&quot;</td>
</tr>
<tr>
<td>75,000*</td>
<td>4&quot;</td>
<td>NONE REQUIRED</td>
</tr>
<tr>
<td>100,000*</td>
<td>4&quot;</td>
<td>NONE REQUIRED</td>
</tr>
<tr>
<td>120,000*</td>
<td>4&quot;</td>
<td>NONE REQUIRED</td>
</tr>
<tr>
<td>125,000</td>
<td>5&quot;</td>
<td>4&quot; TO 5&quot;</td>
</tr>
<tr>
<td>140,000*</td>
<td>4&quot;</td>
<td>NONE REQUIRED</td>
</tr>
<tr>
<td>150,000</td>
<td>5&quot;</td>
<td>4&quot; TO 5&quot;</td>
</tr>
</tbody>
</table>

*80 MCF/G24M INPUT RATES
INSTALLATION OF SWG POWER VENTER

Caution: Failure to install, maintain and/or operate the power venting system in accordance with the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

Unit Selection Table: Check the BTU/HR input on the appliance rating plate and compare to the BTU/HR input on the chart above for proper flue pipe sizing and transition selection. Note: See Figure 9 on Page 9.

1. Remove power venter from box and inspect unit for damage. If the carton has been crushed or mutilated, check unit very carefully for damage. Rotate blower wheel to insure that the motor and blower wheel rotate freely. DO NOT install if any damage is apparent.

2. Location of the termination of the venting system should be installed in accordance with the National Fuel Gas Code, A.N.S.I.Z223.1, CGA Standards B149.1-M91, B149.2-M91, manufacturer’s recommendations and/or local codes which are applicable. See requirements below or refer to installation location Diagram A for typical locations.

   A. The exit termination of mechanical draft systems shall not be less than 7' above grade when located adjacent to public walkways.

   B. A venting system shall terminate at least 3' above any forced air inlet located within 10'. For Canadian applications, a venting system shall terminate more than 6' away from a mechanical air supply inlet.

   C. The venting system of other than a direct vent appliance shall terminate at least 4' below, 4' horizontally from, or 1' above any door, window or gravity air inlet into the building. For Canadian applications, according to CAN/CGA Standards B149.1-M91 and B149.2-M91, 12" clearance is required for inputs up to and including 100,000 BTU/HR and 3' for inputs exceeding 100,000 BTU/HR.

Diagram A

SWG SERIES POWER VENTER INSTALLATION LOCATIONS
D. The vent termination of a direct vent appliance with an input of 50,000 BTU's per hour or less, shall be located at least 9' from any opening through which vented gases could enter the building. With an input over 50,000 BTU's per hour, a 12" termination clearance shall be required.

E. The vent termination point shall not be installed closer than 3' from an inside corner of an L-shaped structure.

F. The vent termination should not be mounted directly above, or within 3' horizontally from an oil tank vent or gas meter.

G. The bottom of the vent terminal shall be located at least 12" above finished grade.

3. After determining the location of the venting system termination point (See Diagram A), cut a square hole through the wall 1" larger than the outer pipe diameter of the power vented. Mount the power venter through the wall, keeping the outer pipe centered in the hole. (See Figure 1.) Fasten the power venter to the outside wall with appropriate fasteners. Seal the edges of the power venter base plate to the wall with a high temperature silicone sealant. DO NOT enclose the spaced plates on the power venter body. This will result in reduced cooling of the power venter body. Wood or vinyl siding should be cut so that the unit mounts directly on the wall board to provide a stable support. If the siding is greater than 1/2" thick use a spacer plate or board behind the power venter mounting plate. (See Figure 2).

NOTE: If mounting the power venter through a combustible wall material and the flue gas temperature is above 400°F at the power venter inlet, line the square hole with a piece of corrosion resistant sheet metal or non-combustible material. The liner piece should be the same width as the wall section (See Figure 1.) The power venter has a maximum flue gas temperature of 550°F at the venter inlet. For installation in wall thickness over 8-inches, use an SWG Series Through Wall Extension Kit, Model PKR.

4. Remove the end pipe cover screws on the sides of the outside pipe and remove end pipe cover. Then mount the backing plate over the outer pipe and route the flexible conduit and pressure switch tube through the holes provided in the backing plate. Fasten the backing plate to the inside wall with appropriate fasteners. (See Figure 3.) Re-install end pipe cover and screws.

CONNECTING POWER VENTER TO APPLIANCE:

Venting system should be installed and supported in accordance with the National Flue Gas Code A.N.S.I.Z223.1, CGA Standards B149.1-M91, B149.2-M91, or in accordance with any local codes. A vent pipe connector shall be supported for the design and weight.
of the material employed, to maintain clearances, prevent physical damage and separation of joints. A vent pipe increaser or reducer may be required for connecting the power venter to the vent system. If needed, place the reducer close to the power venter. Smaller vent pipe sizes than a chimney-vented system may be used for the vent system. If mounting venting system near combustible materials, refer to Diagram B for allowable installation clearances. Clearances are based on an installation using single wall galvanized steel vent pipe. For metal thickness of galvanized steel pipe connectors, refer to NFPA 211, NFPA 54, or Canadian Standards for guidelines. If manufactured double wall vent pipe is required or used for the installation, clearance should be based on the vent pipes rated clearance. Always check local code requirements for code restrictions. Route the vent pipe from the appliance to the power venter using a minimum number of elbows as possible. The horizontal section of the vent pipe should have a slight upward slope from the appliance to the power venter. For clearances to combustible materials, multiple appliance venting and other installation requirements, refer to the National Fuel Gas Code A.N.S.I.Z223.1, CGA Standards B149.1-M91, B149.2-M91, and/or any applicable local codes or appliance manufacturer’s installation instructions.

**INSTALLATION USING SINGLE WALL VENT PIPE**

**Diagram B**

![Diagram B](image)

**INSTALLATION CLEARANCE WITH SINGLE WALL VENT PIPE**

<table>
<thead>
<tr>
<th>DOUBLE PIPE SYSTEM</th>
<th>SINGLE PIPE SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowable inlet Temperature</strong></td>
<td><strong>Clearance (A)</strong></td>
</tr>
<tr>
<td>400°F or Less</td>
<td>1/2 Inch minimum</td>
</tr>
<tr>
<td>400°F to 550°F</td>
<td>1 Inch minimum</td>
</tr>
<tr>
<td>400°F to 550°F</td>
<td>1/2 Inch minimum with sheet metal liner</td>
</tr>
</tbody>
</table>

**Figure 4**

![Figure 4](image)

**Figure 5**

![Figure 5](image)
To install an outer pipe extension to the SWG power venter, the end pipe cover on the power venter must be removed. Then, cut a 1-inch square notch into the vent pipe extension before attaching to the power venter. (See Figure 4.) This allows clearance for the adjustment damper. Install the needed pipe extensions and terminate the outer pipe extension with the end pipe cover. (See Diagram B.) The table above shows minimum allowable clearances when using single or double pipe systems. When the outer pipe is extended over the inner pipe use the double pipe guidelines when determining clearances. NOTE: Vent pipe joints should be secured with at least (3) three sheet metal screws.

Class B and class L double wall vent pipe installation:
(Follow vent pipe manufacturer’s listed or recommended clearances from combustible material.)

1. Using a hand crimper or a like device, crimp the inner pipe of the SWG power venter approximately 1" long. (See Figure 5.)

2. Attach the vent pipe over the crimped end of the SWG power venter inner pipe.

3. Secure the vent pipe to the SWG power venter inner pipe with at least (3) three #8 sheet metal screws. Predrilling the holes through both pipes will allow easier fastening.

**Equivalent Length of Vent Pipe for Vent Pipe Fitting**

<table>
<thead>
<tr>
<th>VENT PIPE FITTINGS</th>
<th>VENT PIPE DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3&quot;</td>
</tr>
<tr>
<td>TEE</td>
<td>19</td>
</tr>
<tr>
<td>90° ELBOW</td>
<td>5</td>
</tr>
<tr>
<td>45° ELBOW</td>
<td>3</td>
</tr>
<tr>
<td>SUDDEN REDUCER OR INCREASER FOR THREE RATIOS <em>(d/D)</em></td>
<td>d/D</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
</tr>
<tr>
<td></td>
<td>3/4</td>
</tr>
</tbody>
</table>

*Reducer or increaser ratio (d/D) small diameter divided by the larger diameter. Example 4" to 8" reducer: The reducer ratio is d/D = 4/8 = 1/2. To estimate the equivalent foot length for the fitting, use the smaller pipe diameter for the equivalent length figure. Example 4" to 8" reducer; the reducer ratio is 1/2 and the smaller pipe diameter is 4". So, from the chart, the equivalent feet would be 7 feet.

Procedure for calculating total equivalent pipe length in feet:

1. Calculate the total equivalent feet for each type of fitting used in the venting system from the chart above.

2. Calculate the total amount of feet for the straight lengths of vent pipe.

3. Add the equivalent feet for the fittings with the total amount of feet of straight lengths. This will approximate the total equivalent feet of the vent system.

**Example:** System Pipe Size = 4"

- Step 1 Two 4" 90° Elbows @ 7 feet each = 14 Ft.
- Step 2 Ten 2 Foot Lengths of 4" Pipe = 20 Ft.
- Step 3 Total Equivalent Feet = 14 Ft. + 20 Ft. = 34 Ft.

**Vent Pipe Sizing:**

This kit is shipped with a 4" Draft Control and the inlet to the power venter is 4" diameter. Depending upon the input rating of the unit selected, a transition may need to be field provided and installed on the outlet of the furnace. If the input of the unit is above 125,000 BTU/HR, the vent pipe may need to be sized at 5" diameter. In that case, an additional transition may be used at the inlet of the power venter and the transition exiting the furnace may be eliminated. A transition may be used to plumb the barometric damper into the vent system as long as proper draft can be maintained. If draft cannot be maintained, a 5" draft control will have to be field provided and installed.
Maximum vent lengths for the SWGII-4HD power venter:

<table>
<thead>
<tr>
<th>UNIT RATE BTU/HR</th>
<th>4&quot; VENT PIPE</th>
<th>5&quot; VENT PIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>45,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>50,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>60,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>75,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>100,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>120,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>125,000</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>140,000</td>
<td>48</td>
<td>60</td>
</tr>
<tr>
<td>150,000</td>
<td>35</td>
<td>60</td>
</tr>
</tbody>
</table>

Notice: According to GAMA, all vent pipe which is routed through unconditioned space should be "B" type double wall vent pipe.

GENERAL WIRING INSTRUCTIONS:

Wire the power venter motor and controls in accordance with the National Electric Code and applicable local codes. **UNIT MUST BE GROUNDED.** Check ground circuit to make certain that the unit has been properly grounded. The wiring should be protected by an over-current circuit device rated at 15 amperes. **CAUTION MUST be taken to ensure that the wiring does not come in contact with any heat source.** All line voltage and safety control circuits, between the power venter and the appliance, MUST be wired in accordance with the National Electrical Code for Class I wiring or equivalent.

INSTALLATION INSTRUCTIONS FOR CONTROL MODULE:

Designed for use with the SWG Series Power Venter for controlling Natural Gas and L.P. Gas Draft Induced appliances.

Items included in Kit:

1) Junction box with mounted pressure switch and relay/timer.
1) 1 Ft. Length of 1/4 inch aluminum tubing.
1) 1/4 inch tubing connector
1) Flexible conduit connector
1) 4" NGI Barometric Draft Control

Figure 6

Figure 7
MOUNTING JUNCTION BOX:

The junction box can be mounted at the venter or remotely mounted away from the venter. (See Figures 6 & 7.)

1. Remove one of the knockouts from the side of the junction box where the pressure switch is mounted. Install the flexible conduit connector onto the CK-43 junction box and secure with fastening nut. If remote mounting the CK-43 junction box, mount the flexible conduit connector onto a 2" x 4" installer supplied junction box. (See Figure 7.)

2. Fasten the flexible conduit from the SWG Venter into the conduit connector. Mount the CK-43 junction box or installer supplied junction box onto the wall or floor joist without straining the flexible conduit. Fasten the CK-43 junction box through the four dimpled locations on the base of the box.

PRESSURE SWITCH SENSING TUBE INSTALLATION:

1. Attach the 1/4 inch tubing connector to the pressure tube on the SWG Venter (See Figure 8).

2. Connect the supplied 1/4" aluminum tubing to the tubing connector. Route the tubing to the CK-43 junction box and connect the tubing to the pressure switch. When routing the tubing, avoid kinking the tubing by bending the tubing too sharply.

For remote mounted CK-43 Junction Box, use a 1/4" OD copper, aluminum or plastic tubing and route the tubing to avoid contact with any heat source.

POWER VENTER KIT WIRING:
DRAFT CONTROL INSTALLATION

Collar Installation - This control is shipped with a collar patterned to fit a single wall round vent pipe. To attach this collar to the flue, see Figure 10 and follow the instructions below.

1. Bend outward the two ears at the front corners of the collar. Bend 90 degrees, 1/4 inch behind the single hole on the straps.

2. Insert clamping screw in ears on collar and bolt the rest of the collar together.

3. Hold the collar against the side of the flue in the exact position it is to be installed (shown by dotted lines) and mark the outline of the collar on the flue.

4. Cut a hole in the flue about 1/2" inside of this outline.

5. Make a series of cuts 1/2" apart from the edge of this hole to the outline marks.

6. Strap the collar to the flue pipe.

7. Bend the tabs formed by the series of cuts outward against the inside of the collar to make a tight joint.

8. Insert the draft control. (See Draft control Installation and Adjustment Section.)

Draft Control Installation in Type B Vent Pipe - CAUTION: DO NOT use the supplied collar when mounting draft control to Type B Vent Pipe. Install by using a Type B Vent Pipe Tee.

1. Install a vent pipe reducer or increaser into the inner pipe and fasten using sheet metal screws (See Figure 11).
2. The opening of the Type B Vent Tee, at the draft control mounting location, should be sealed with a high temperature sealant or equivalent.

3. Refer to Draft Control Installation Section.

**Draft Control Installation and Adjustment** - Insert the draft control into the collar or tee. The front face of the control MUST be plumb and the bearing surfaces MUST be level whether the control is on a horizontal, vertical or sloping flue pipe. Use a spirit level and level accurately. Secure the control in the collar by tightening the clamping screws. If a tee is used or a collar is supplied locally, the control may be held in place by sheet metal screws.

**Adjusting the Draft Control** - The control MUST be adjusted to the desired draft setting by adding or removing the washer-type weights supported by the two chains on the side of the draft control (See Figure 12). **DO NOT move the weight attached directly to the gate, this is used only for balancing at the factory.**

**What Draft Setting to Use** - When adjusting the control, two things are essential:

1. The burner must be operating for at least 10 minutes to obtain maximum chimney draft.

2. An analysis of the flue gases is necessary to determine the percentage of CO₂ and check for the presence of CO. Refer to the appliance instructions and/or to the local gas company for the proper CO₂ readings and allowable CO levels. Draft settings should typically be between -0.01" and -0.03" of water column draft at the appliance outlet. (Check equipment requirement.)

Changes in the adjustment of the 4" MG1 control should be made by adding or removing the washer-like weights (supplied with the control) to or from the weight holder chain assembly. After the control is adjusted, it's action will be entirely automatic, the gate will open or close by itself to correct for changes in the draft that occur in the chimney.

**AIR FLOW ADJUSTMENTS:**

In order to obtain proper system draft, the power venter has an airflow adjustment damper built-in. When used in a system with a barometric draft control, this damper should be used to make coarse draft adjustments while the barometric should be used for finer adjustments. Loosen the locking screw on the air flow adjustment damper on the outer pipe of the power venter (See Figure 13). Adjust the damper to the full open position. Follow appliance manufacturer's procedures for starting the heating appliance. Then adjust the thermostat to call for "Heat". After the system has operated for several minutes to stabilize flue gas temperatures, check for negative draft or updraft at the heating appliance outlet. Use a draft gauge, velocity meter or match test procedure. Adjust the adjustment damper closed to obtain the minimum air flow required to maintain draft. Then increase air flow slightly (10% over minimum air flow rate) to ensure proper venting. If proper draft has been established, tighten the adjustment locking screw. Refer to the General Installation Inspection to check for negative pressure problems in the building. If sufficient combustion air for the burner is not provided, a flow reversal during the off cycle could occur within the venting system. This may cause combustion problems as well as condensation that could block the air pressure sensing tube. It may also contribute to premature motor failure. Combustion, and/or make-up air, should be supplied from outside the structure and the air inlet should be on the same wall as the power venter discharge. For example, tightly constructed homes and homes retro-fitted from electric heated systems are more likely to experience combustion and/or make-up air problems. For further information consult "The Field Report - Effects of insufficient combustion air on draft and heating systems." Refer to the following for pressure switch adjustment procedure and system checkout procedures before operating continuously. **NOTE:** After proper venting has been established, it is recommended that a combustion test and a check for CO levels be performed.
PROVING SWITCH ADJUSTMENTS:

After proper air flow is established, the pressure switch adjustment is made by turning the pressure switch adjustment screw clockwise (see Figure 14) until burner operation stops. Turn the adjustment screw counterclockwise until burner ignites. Turn the adjustment screw an additional 1/4 to 1/2 turn counterclockwise to ensure adequate switch adjustment.

Warning: Failure to properly adjust the pressure switch as specified above could lead to improper operation of the pressure switch which will result in a hazardous condition and bodily harm!

POST PURGE TIMER ADJUSTMENT

To adjust the post purge time, rotate the timer adjustment screw on the timer clockwise to decrease post purge time. To increase the operation time, rotate the timer adjustment screw counterclockwise (see Figure 15). Typical post purge time should be between 1 and 2 minutes.

THERMOSTAT HEAT ANTICIPATOR ADJUSTMENT:

After venting kit installation and checkout, check the amperage current draw through the thermostat circuit and adjust the thermostat anticipator accordingly.

GENERAL INSTALLATION INSPECTION:

Recommended procedures for safety inspection of an appliance in accordance with the National Fuel Gas Code A.N.S.I. Z223.1 or CAN/CGA B149.1-M91 or CAN/CGA B149.2-M91. The following procedure will help evaluate the venting system. It is intended as a guide to aid in determining that the venting system is properly installed and is in a safe condition for continuous use. This procedure should be recognized as a generalized procedure which cannot anticipate all situations. Accordingly, in some cases, deviation from this procedure may be necessary to determine safe operation of the equipment. If it is determined that a condition exists which could result in unsafe operation, the appliance should be shut off and the owner advised of the unsafe condition. Corrections must be made before the appliance is put into continuous operation. The following steps should be followed in making a safety inspection.

1. Visually inspect the venting system for proper size and determine that there is no flue gas spillage, blockage, restriction, leakage, corrosion, or other deficiency which could cause an unsafe operation.

2. Insofar as practical, close all building doors, fireplace dampers, windows, and all doors in area in which the appliance is located. Turn on clothes dryers, any exhaust fans, such as range hoods and bathroom exhausters so they operate at maximum speed. Do not operate a summer exhaust fan. If, after completing Steps 3 through 7 it is believed sufficient combustion air is not available, refer to the National Fuel Gas Code A.N.S.I. Z223.1, CAN/CGA B149.1-M91 or CAN/CGA B149.2-M91, or any applicable local codes for guidance.

3. Place in operation the appliance being inspected. Follow the lighting instructions and adjust thermostat so appliance will operate continuously.

4. Determine that the pilot or burner is operating properly and that the main burner ignition operates satisfactorily, by interrupting and re-establishing the electrical power of the appliance in any convenient manner. Test the pilot or burner safety device to determine if it is operating properly by extinguishing the pilot or disconnecting the flame safety circuit and pressure switch sensing tube from the pressure switch.
5. Visually determine that the main burner is burning properly; i.e., no floating, lifting, or flashbacks.

6. Test for spillage at the barometric draft control opening and burner inlet air location after 5 minutes of main burner operation. Use a draft gauge, flame of a match or candle, smoke from a cigarette, cigar or pipe. If spillage occurs, adequate air is not available. Shut off heating appliance thermostat and check for spillage around the barometric draft control or burner inlet air location after power ventor has stopped operation. If a flow reversal is noticed, house depressurization is occurring and make up air is required.

7. Turn on all fuel burning appliances within the same room so that they will operate at their maximum input. Then repeat Steps 5 and 6.

8. Return doors, windows, exhaust fans, fireplace dampers and any other fuel-burning appliances to their previous condition of use.

REMOVAL AND INSTALLATION OF THE MOTOR ASSEMBLY

REMOVAL:

1. Remove the motor enclosure cover by loosening the four screws. (See Figure 16.)

2. Open the electrical box on the motor and disconnect the conduit and wires from the motor. (See Figure 17.)

3. Remove the three nuts securing the motor assembly, and pull the motor assembly straight off of the unit.

4. Clean off any build-up inside the blower wheel housing and the blower wheel. CAUTION: Avoid applying excess pressure on the blower wheel when cleaning off any build-up of material. This will cause an imbalance of the blower wheel which will result in excessive vibration and premature motor failure.

INSTALLATION:

1. Align the holes in the circular cover plate with the holes in the motor mount bracket on the motor assembly.

2. Slide the motor assembly onto the protruding threaded studs on the power ventor body with the exhaust chute pointing downward, and replace the three nuts securely to the threaded studs.

3. Reattach the flexible conduit and wires to the motor and secure the cover on the electrical box.

4. Install motor cover with side louvers pointing down.

Figure 16

Figure 17
EXTENSION KIT INSTALLATION INSTRUCTIONS
(Includes an air adjustment damper plate)

1. Remove the End pan from the SWG Venter (See Figure 20).

2. Using a pair of sheet metal cutters, cut the Damper Plate Adjustment Bracket (See Figure 21). Then remove the Damper Plate and Adjustment Bracket.

NOTE: The Extension Kit can be added onto the SWG Venter directly or by attaching equal lengths of inner and outer pipes, then the Extension Kit can be added closer to the heating unit.

3. Install the Extension by starting the inner pipe into the attaching section first, then lightly tap the end of the inner and outer pipe into the attaching section until the rib on the crimped end touches the attaching pipe.

NOTE: The lock seam of the pipe should be on the top of the pipe.

4. Make sure damper plate rotates freely, then fasten the outer pipe with at least (3) three sheet metal screws.

SYSTEM CONTROL CHECK OUT PROCEDURES:

1. Adjust the thermostat to call for heat and observe the power venting system for proper operation sequence (Repeat if necessary).
   a. Thermostat calls for heat.
   b. Relay is energized and venter motor starts.
   c. Pressure switch closes and burner starts.
   d. Thermostat is satisfied, the burner stops.
   e. This starts the post purge cycle.

2. While system is operating disconnect power to the venter motor. This should open the pressure switch contacts and stop burner operation.
TROUBLE SHOOTING HINTS:

1. Main burner does not fire when thermostat calls for heat with venter operating.
   a. Check pressure switch adjustment.
   b. Check wiring connections between pressure switch and burner.
   c. Check pressure switch for continuity across terminals, during venter operation.

2. Venter does not activate when thermostat calls for heat.
   a. Check wiring.
   b. Check relay for proper operation.

3. Flue gas odor.
   a. Check system draft.
   b. Check for negative pressure in building.
   c. Check post purge time.

MAINTENANCE:

1. Motor: Inspect the motor once a year - motor should rotate freely. To prolong the life of the motor, it may be lubricated with six drops of SWG Superlube, Part # 46226200, annually.

2. Wheel: Inspect the power venter wheel annually to clear any soot, ash or coating which inhibits either rotation or air flow. Remove all foreign materials before operating.

3. Vent System: Inspect all vent connections annually for looseness, for evidence of corrosion and for flue gas leakage. Replace, seal, or tighten pipe connections if necessary. Check the power venter choke plate to insure it is secured in place. Check the barometric draft control to insure the gate swings freely.

4. System Safety Devices: With the heating system operating disconnect the pressure sensing tube from the pressure switch on the CK Kit. This will stop the burner operation. Re-connecting the tube will relight the burner.

Should the motor or blower wheel need replacing, the following replacement items are available. The Repair Motor Assembly contains the Motor and Blower Wheel factory assembled to a mounting bracket.

<table>
<thead>
<tr>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>SWGII-4HD</td>
</tr>
</tbody>
</table>

Repair Motor Assembly
Blower Wheel
INSTALLATION INFORMATION

MODEL NO: SWG-4L POWER VENTING KIT
INSTALLERS NAME: _______________________
INSTALLERS COMPANY: _______________________
INSTALLERS PHONE NO: _______________________
DATE OF INSTALLATION: _______________________

Page 15
INFORMATIONS D'INSTALLATION
INSTALLATION

1. Alligner les trous de la plaque de fixation avec ceux du support de montage du moteur.

2. Passez la visserie sur les trous de la plaque de fixation et visser les vis à travers le corps.

3. Plier le conduit flexible et les tubes en mouvement et fixer solidement le convoyeur.

4. Fixer la poignée du moteur pour que le rouleau d'éjection des cordes soit portées vers le bas.

5. Monter le bloc moteur sur les boutons filtres.

1. Le brûleur doit fonctionner depuis au moins 10 minutes afin d’obtenir le tirage conditions sont essentielles.

2. Une analyse de gaz de combustion est nécessaire afin de déterminer le pourcentage de CO et la présence de NOx. Les tests doivent être effectués tous les mois pour les régulateurs de température et tous les trimestres pour les régulateurs de température. Une fois la lecture, on se fera de lui-même selon les instructions du manuel.
INSTALLATION DU BORNIER DE RACCORDEMENT:

1. Préparation de la surface de montage:
   - Nettoyer le mur de la sous-face avec un solvant ou du décapant
   - Sûr de ne pas endommager le mur

2. Raccordement:
   - Fixer le bornier de tétine à l'aide de 2 vis mèches par 4 vis mèches
   - Fixer à un raccord de conduit à l'aide d'un écrou de tétine
   - Fixer à un raccord de tuyau

3. Branchement:
   - Brancher le raccord de tuyau sur le collecteur
   - Brancher le collecteur sur le raccord de tuyau
   - Assurer un bon contact entre les composants

Remarque: Assurer que le bornier de tétine est bien fixé à l'aide des vis.
**Calcul de la longueur équivalente de la tuyauterie en pieds linéaires:**

1. Calculer la longueur totale équivalente en pieds linéaire en utilisant le tableau ci-dessous. Pour chaque tuyauterie d'évacuation utilisée, la longueur totale équivalente de 4 pieds linéaires est de 14 pieds = 20 pieds + 20 pieds = 34 pieds.

2. Exemple :
   - Tuyauterie d'évacuation en 4 pouces et l'entrée de l'évacuauteur de 0,9 pieds linéaires.  
   - Faire une combinaison de tuyauterie de 6 pieds = 20 pieds + 20 pieds = 34 pieds.

**Grosour de la tuyauterie d'évacuation à utiliser:**

Une tuyauterie d'évacuation de 6 pouces et l'entrée de l'évacuauteur de 0,9 pieds linéaires.  

**Longueur maximale de la tuyauterie d'évacuation pour l'évacuauteur d'air motorisé SWC-4D:**

- **Cylindré:**
  - 450,000 60 60 60 60 60 60 60
  - 500,000 60 60 60 60 60 60 60
  - 600,000 60 60 60 60 60 60 60
  - 750,000 60 60 60 60 60 60 60
  - 100,000 60 60 60 60 60 60 60
  - 120,000 60 60 60 60 60 60 60
  - 140,000 60 60 60 60 60 60 60
  - 150,000 60 60 60 60 60 60 60
  - 150,000 60 60 60 60 60 60 60

**NOTES:**
- **GAMA:** Non applicable.  
- **Manifester les tuyauteries d'évacuation de plus de 20 pieds linéaires au gaz.**  
- **Manifester le tuyau d'évacuation de plus de 30 pieds linéaires au gaz.**
<table>
<thead>
<tr>
<th>MODALITÉS DE DISTRIBUTION (RÉPARTITION)</th>
<th>TAILLES (EN CM)</th>
<th>PÉTROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 4</td>
<td>3 x 4</td>
<td>3 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>4 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>4 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>4 x 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PÉTROLE</th>
<th>TAILLES (EN CM)</th>
<th>MODALITÉS DE DISTRIBUTION (RÉPARTITION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>3 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>3 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>3 x 4</td>
</tr>
<tr>
<td>3 x 4</td>
<td>4 x 4</td>
<td>3 x 4</td>
</tr>
</tbody>
</table>

**INSTALLATION D'ÉVACUATION & D'ÉPURATION**

CONSERVER CES INSTRUCTIONS AVEC NE PAS DÉTRUIRE

CONSIGNES DE SÉCURITÉ :

3. L'évacuateur fonctionne après un certain temps après l'arrêt du brûleur.
   Dès que l'évacuateur fonctionne, il évacue le débit d'air des moteurs. Pour que l'évacuat
   eur fonctionne correctement, il est nécessaire de le régler sur la position de réglage.

2. La température de l'air est de 60 °C ± 10 °C. Le brûleur fonctionne à une température d'environ 100 °C pour assurer une combustion correcte.

1. Le brûleur droit ne doit pas être utilisé pour le gaz naturel et le gaz a base de méthane.

CONSIGNES D'INSTALLATION :

Pour installer le système :

1. Assurez-vous que toutes les parties sont correctement assemblées et alignées. Les parties de plus de 8 pouces à partir du sol doivent être solidement fixées.

CONSIGNES D'ASSEMBLAGE :

1. Assurez-vous que le moteur est fixé correctement et qu'il est bien aligné avec les parties de la pompe à air.

2. Assurez-vous que le brûleur est bien aligné avec la partie supérieure du moteur.

3. Assurez-vous que le système de sécurité est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

4. Assurez-vous que le système de refroidissement est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

5. Assurez-vous que le système de sécurité est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

6. Assurez-vous que le système de refroidissement est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

7. Assurez-vous que le système de sécurité est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

8. Assurez-vous que le système de refroidissement est correctement fixé et qu'il est bien aligné avec la partie supérieure du moteur.

AVIS : INCLUS DANS CET ENSEMBLE :

POUR INSTALLER LE COMPRESSEUR À AIR, ASSEMBLEZ MODELES G-23.

ÉVACUATEUR D'AIR, MOTORISE MURAL, MODELE SW-41.