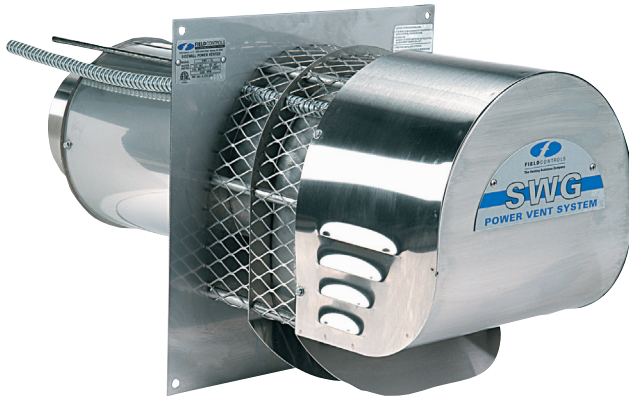


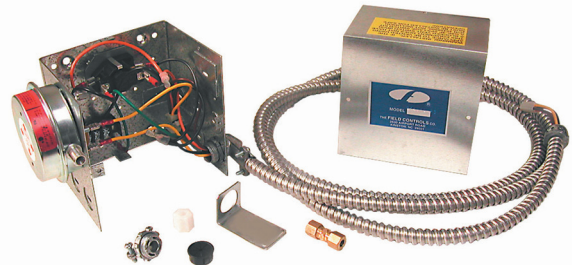
# SIDEWALL POWER VENTER KIT

Model: SWG-10, SWG-12, SWG-14

\*Patented



CK Series control kit  
sold separately



## Typical Venting System Components

- 1 - SWG Series Power Venter
- 1 - Motor Starter Assembly
- 1 - CK Series Control Kit (sold separately)

### FOR MOST MULTIPLE HEATING EQUIPMENT SYSTEMS

One CK Series Control Kit for each appliance. Except for a 24V gas furnace or boiler and a 30mV water heater multiple venting system, use the CK-90 Series Control Kit.

## Contents

Available Control Kits .....	2	General Inspection.....	9
Installation Instructions .....	2-6	Maintenance .....	9
Wiring .....	7-8	Replacement Parts.....	10
Air Flow Adjustments.....	8	System Information .....	11

## General System Information

Designed for operation with natural gas, LP gas and #2 fuel oil appliances.

1. The thermostat (wall thermostat or aquastat) 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. For millivolt controlled water heaters using the CK-20 Series Control Kit, the gas valve pressure switch activates the power venter at the same time as the burner fires.
3. After the heating requirement has been satisfied, the thermostat circuit will open and de-activate the burner and power venter circuit.
4. For venting systems equipped with a post purge device, the power venter operates for a period of time after the burner has shut off to purge remaining flue gases.

**READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION.**

This device **MUST** be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By: \_\_\_\_\_ Phone: \_\_\_\_\_ Installation Date: \_\_\_\_\_



**FIELD CONTROLS**

www.fieldcontrols.com

## CONTROL KITS

- CK-20F/HWK: For operation with 30 or 750 millivolt gas-fired water heaters, gas-fired space heaters, and gas-fired pool or spa heaters with an internally mounted thermostat. Includes a fixed post purge.
- CK-21: For operation with gas-fired instantaneous water heaters with a pressure tap port in the burner manifold.
- CK-40F/41F: For operation with gas-fired furnaces, boilers, unit heaters and water heaters operating with a 24 VAC gas valve. For systems not equipped with factory mounted spillage switches, use the CK-41F which includes two GSK-3 spill switches. Includes a fixed post purge.
- CK-43/43F: For draft induced 24 VAC gas valve systems. Includes a 4" MG-1 draft control and electronic post purge. The CK-43F includes a fixed post purge.
- CK-61: For operation with oil-fired systems. Has electronic post purge.
- CK-62: For operation with oil-fired systems. Has thermally activated post purge.
- CK-63: For operation with oil-fired systems. Has electronic post purge. For operating venter with or without burner motor.
- CK-81: For operation with 750 millivolt operated boilers, furnaces, water heaters, pool or spa heaters, and gas-fired fireplaces when operating with remote mounted thermostat. Operated off a 24 VAC thermostat. For operation off of a 120 VAC thermostat or wall switch, use the CK-80.
- CK-91/91F: For gas fired draft induced 24 VAC gas valve systems and a 30 millivolt operated water heater. Includes a 4" MG-1 draft control and an electronic post purge. The CK-91F includes a fixed post purge.
- CK-92\*/92F: For operation with gas-fired furnaces, boilers, unit heaters and water heaters operating with a 24 VAC gas valve and a 30 millivolt operated water heater. Includes an electronic post purge. The CK-92F includes a fixed post purge.

## 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 70% combustion efficiency or have a maximum measured flue gas temperature of 650°F US/575°F CA 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. Recording burner and venting system initial operational information is strongly recommended as a guide for service or burner tune-up. Enter this in the chart at the end of this manual.
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 ANSI Z223.1, 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. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.
5. 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 for gas appliances and Class L Type Vent Pipe for oil appliances. Refer to national or local codes for guidelines. It is the responsibility of the installer to verify that the vent pipe system is installed in accordance with all applicable national and local codes.
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. Heating appliances equipped with draft hoods, such as boilers or furnaces, LP gas appliances, and Natural gas appliances SHOULD have a secondary spillage switch installed. On appliances without draft hoods, it is recommended that a secondary safety switch such as a WMO-1, GSK, FTS, or TSP-1 be used. Gas-fired 30 millivolt power systems MUST be equipped with a spillage switch.

1. 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 ANSI Z223.1, Section 8.6.
2. On oil-fired and gas-fired heating appliances not equipped with a draft hood, a barometric draft control **MUST** be installed to regulate proper air flow and fluctuations in the system's air flow during operation. Fluctuations may come from wind loads on the outlet of the power venter, house de-pressurization during windy days, and the different house ventilation requirements between summer and winter operation. For gas appliances, use a Field Controls Type MG-1 Barometric Draft Control. For oil appliances, use a Field Controls Type M or RC Barometric Draft Control. Gas-fired draft induced systems should have a single-acting barometric draft control installed.

INSTALLATION OF SWG POWER VENTER

Table 1

UNIT SIZING CHART					
OIL	GAS	MAXIMUM EQUIVALENT FEET OF VENT PIPE			
MAX* OIL GPH INPUT	MAX** BTU/HR INPUT	AT MAX BTU/HR INPUT	AT 60% OF MAX BTU/HR INPUT	VENTING WITH VENT PIPE SIZE	MODEL
9	1,300,000	10	159	8"	SWG -10
		30	484	10"	
		75	1205	12"	
13.5	1,900,000	16	296	10"	SWG -12
		40	735	12"	
		86	1590	14"	
21	3,000,000	8	107	12"	SWG -14
		18	231	14"	
		35	450	16"	

\*Rating at 100 psi. Sizing based on appliance maximum input rate not actual firing rate.

\*\*Do not exceed maximum BTU/HR input rating or maximum oil GPH input. For multiple venting system applications, add the input for each appliance. Category I gas-fired draft induced systems require an SWGII-4HD or larger. Category III gas-fired draft induced systems require an SWGII-5 or larger.

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 Table 2.
2. Calculate the total amount of feet for the straight lengths of vent pipe.
3. Add the equivalent feet for the fitting with the total amount of feet of straight lengths. This will approximate the total equivalent feet of the vent system.

Table 2

EQUIVALENT LENGTH (FEET) OF VENT PIPE FOR VENT PIPE FITTING									
VENT PIPE FITTINGS	VENT PIPE DIAMETER								
	5"	6"	7"	8"	9"	10"	12"	14"	
TEE	31	38	44	50	56	63	75	89	
90° ELBOW	9	11	12	14	16	18	21	25	
45° ELBOW	4	5	6	7	8	9	10	13	
SUDDEN REDUCER OR INCREASER FOR 3 *RATIOS (d/D)	d/D								
	¼	14	17	19	22	25	28	33	40
	½	8	10	12	13	15	17	20	25
	¾	3	4	4	5	6	6	7	9

\*Reducer or increaser ratio (d/D) small diameter divided reducer ratio is  $d/D = \frac{4}{8} = \frac{1}{2}$ . 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  $\frac{1}{2}$  and the smaller pipe diameter is 4". So, from the chart, the equivalent feet would be 7 feet. (See Figure 1)

Example: System Pipe Size = 10"

- Step 1 Two 10" 90° elbows @ 18' each = 36 ft.
- Step 2 Ten 2' lengths of 10" pipe = 20 ft.
- Step 3 Total equivalent feet = 36 ft. + 20 ft. = 56 ft.

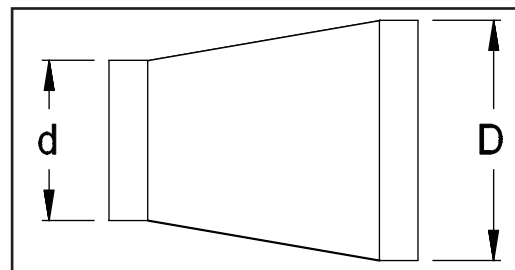


Figure 1

INSTALLATION

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

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. Refer to unit sizing chart to check proper venting sizing.
2. Location of the termination of the venting system should be installed in accordance with the National Fuel Gas Code ANSI Z223.1, 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, although IT IS RECOMMENDED THAT THE SWG -10, SWG -12, AND SWG -14 BE MOUNTED NOT LESS THAN 10' 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'.
  - 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.
  - d. The vent termination of a direct vent appliance with an input of 50,000 BTUs 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 BTUs per hour, a 12" termination clearance shall be required. THE SWG -10, SWG -12, AND SWG -14 MUST BE PROVIDED WITH A 12" MINIMUM CLEARANCE ABOVE ANY OPENING THROUGH WHICH VENTED GASES COULD ENTER THE BUILDING.
  - 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. ANSI Z223.2 requires that: "The bottom of the vent terminal shall be located at least 12" above finished grade," although IT IS RECOMMENDED THAT THE SWG -10, SWG -12, AND SWG -14 BE MOUNTED AT LEAST 48" ABOVE FINISHED GRADE.

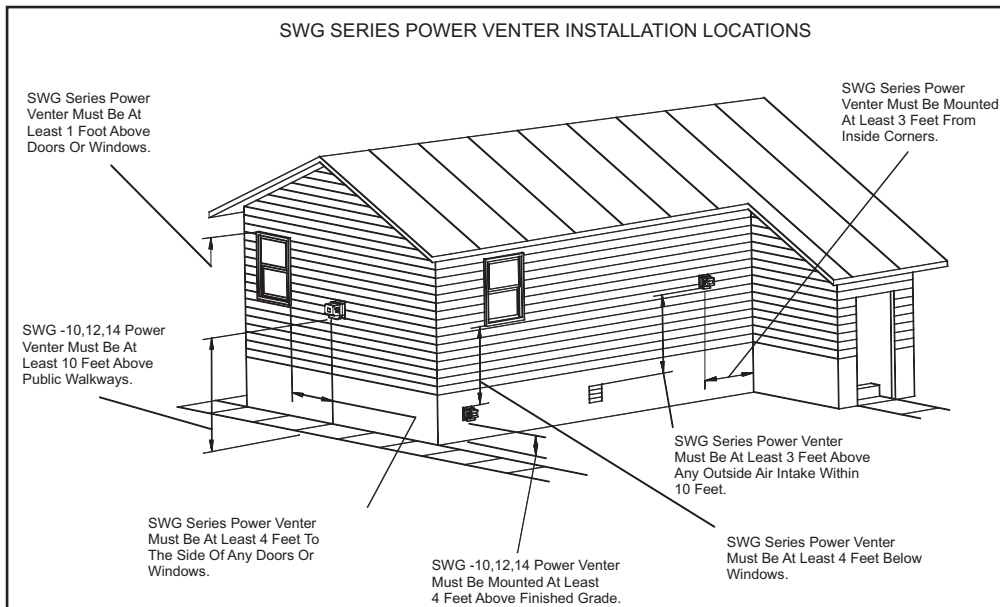


Diagram A

1. After determining the location of the venting system termination point (See Diagram A), cut a square hole through the wall at least 1" larger than the outer pipe diameter of the power venter. (See Note Below) Mount the power venter through the wall, keeping the outer pipe centered in the hole. (See Figures 2 and 3) Provide the motor enclosure end of the venter with a temporary support structure. Fasten the power venter to the outside wall with appropriate fasteners, sealing 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)

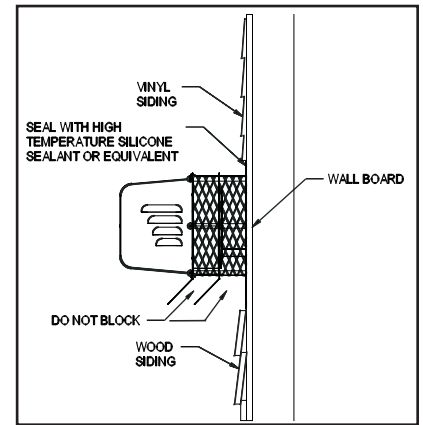


Figure 2

NOTE: If mounting the power venter through a combustible wall material, a minimum clearance of 1/2" must be maintained between the venter outer pipe and combustible materials. (See Figure 3) The power venter has a maximum flue gas temperature of 650°F US/575°C Canada at the venter inlet.

2. Remove the screws attaching the damper adjustment lever to the damper shaft and venter body. (See Figure 4) Rotate the damper to align the damper shaft with the slots in the inner pipe, and slide the shaft up into the slots. 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. Reposition the damper and shaft, and re-install damper adjustment lever and screws. The temporary support structure may now be removed.

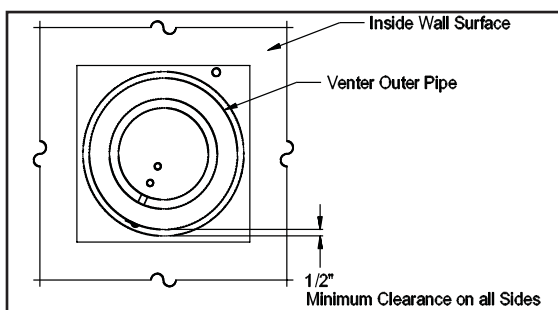


Figure 3

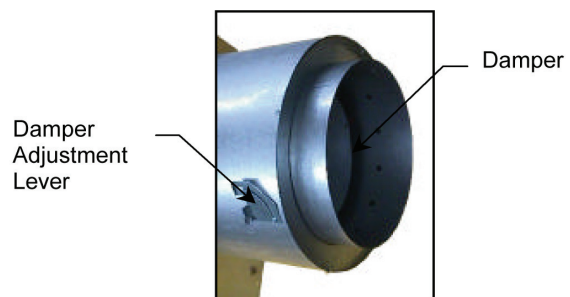


Figure 4

## CONNECTING POWER VENTER TO APPLIANCE

Venting system should be installed and supported in accordance with the National Fuel Gas Code ANSI Z223.1, 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.

For metal thickness of galvanized steel pipe connectors, refer to NFPA 211 or NFPA 54 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 as few 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 combustibles materials, multiple appliance venting and other installation requirements, refer to the National Fuel Gas Code ANSI Z223.1, and/or any applicable local codes or appliance manufacturer's installation instructions.

Figure 5 shows how the airflow pattern through an SWG reduces the required clearances to combustibles. 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 6)
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. Pre-drilling the holes through both pipes will allow easier fastening.

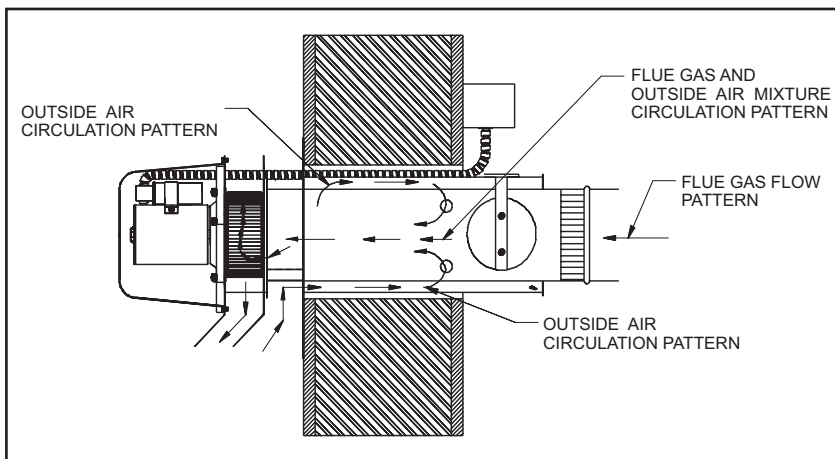


Figure 5

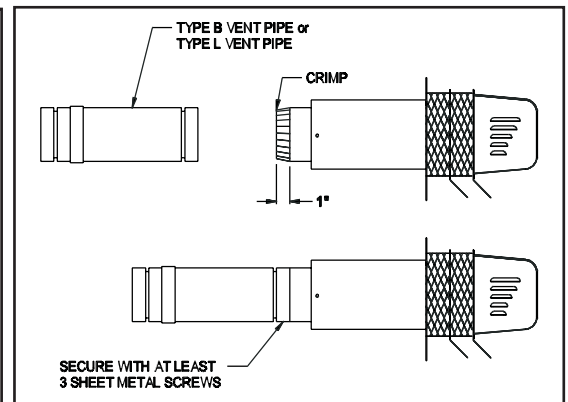


Figure 6

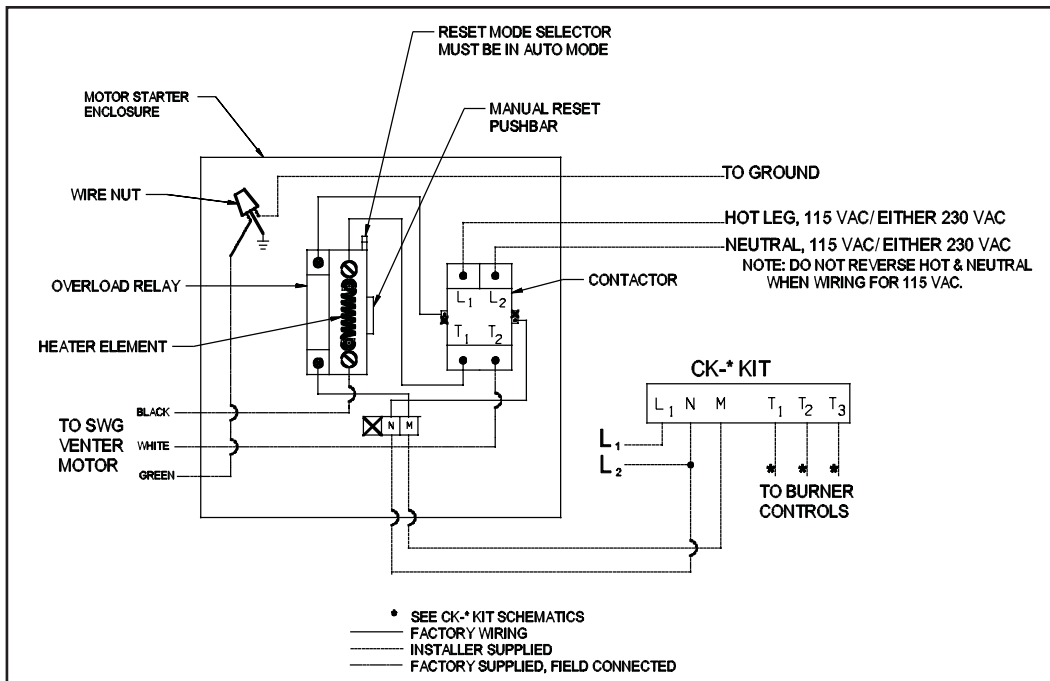


Diagram B

## WIRING

NOTE: 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 venter power feed wiring should be protected by an over-current circuit device rated at 20 amperes. In addition, 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 1 wiring or equivalent.

## Motor Wiring Connections

All pre-assembled units are factory pre-wired for 230 VAC single phase operation. For motor wiring conversion to 115 VAC operation, refer to the motor manufacturer's wiring connection diagram as found on the motor nameplate, and see instructions below for heater element conversion instructions. THE MOTOR MUST BE WIRED FOR CLOCKWISE ROTATION WHEN VIEWING THE MOTOR FROM ITS COOLING FAN END as in figures 10 & 11. (CCW when viewing shaft end.)

## Motor Starter Connections

Refer to Diagram B for connections to the CK-\* control kit, venter power feed, and venter motor leads.



**WARNING:** Do Not reverse hot and neutral wiring if converting to 115VAC operation. Reversal will result in an unsafe installation and may result in injury, death, and/or equipment damage.

Verify that the overload relay is set to Auto Reset by verifying that the reset mode selector bar is pushed all the way into the overload relay, and by pushing on the reset push bar. (See Figure 7) The push bar should be locked in the retracted position by the reset mode selector bar.

IMPORTANT: See instructions on the following page for Motor Overload Relay heater element installation.

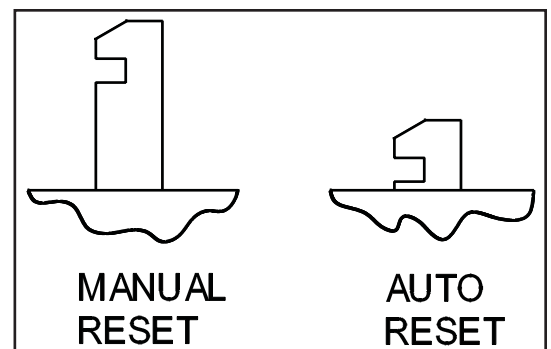


Figure 7

### Motor Overload Relay Heater Element

All units are shipped with the appropriate heater element for 230 VAC operation pre-installed in the overload relay. Please refer to Table 2 for heater element selection verification. To convert to 115 VAC operation, remove the 230 VAC operation heater element from the overload relay and replace with the supplied 115 VAC heater element. (See Figure 8) **IMPORTANT: VERIFY THAT THE PROPER HEATER ELEMENT IS INSTALLED IN THE OVERLOAD RELAY FOR THE PARTICULAR INSTALLATION. FAILURE TO DO SO MAY RESULT IN AN UNSAFE INSTALLATION AND MAY CAUSE INJURY, DEATH, AND/OR EQUIPMENT DAMAGE!**

### CK-\* CONTROL KIT BURNER CONNECTIONS

Refer to appropriate control kit for proper installation instructions.

### 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 9) 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 up-draft at the heating appliance outlet or air flow into the draft hood. 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. For oil-fired or gas-fired power burners, adjust draft to proper over-fired draft.

If proper draft has been established, tighten the adjustment locking screw. For gas-fired systems, shut off thermostat and check for residual heat spilling from draft hood.

If this occurs, a post purge timer may be required. If so, use a Field Controls PPC-5 Electronic Post Purge or a Control Kit which includes one. Before installing, 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 retrofitted 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 appropriate control kit installation instructions 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 on gas and oil units, a check for CO levels on gas units, and a smoke test on oil systems be performed to ensure maximum burner efficiency. Oil burner air adjustments should be set at a zero to a trace smoke at the highest or recommended CO<sub>2</sub>% setting set by heating equipment manufacturer.

Model	Heater Element #	
	115VAC	230VAC
SWG -10	E54	E46
SWG -12	E56	E48
SWG -14	E60	E51

Table 2 Heater Element Selection

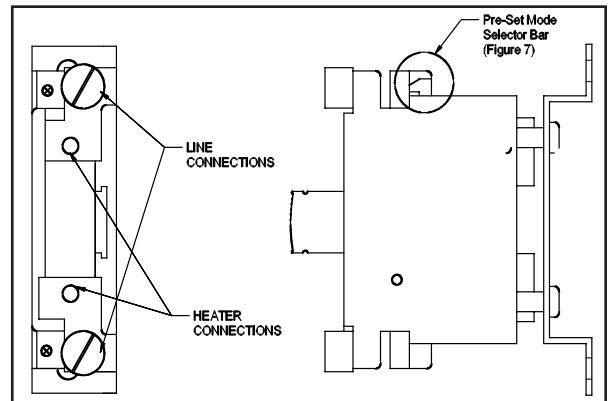


Figure 8

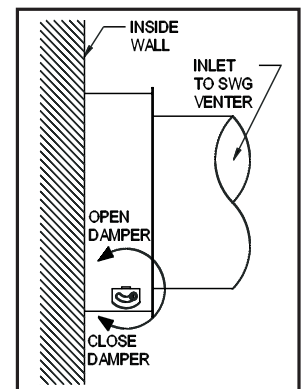


Figure 9

## GENERAL INSTALLATION INSPECTION

Recommended procedures for safety inspection of an appliance in accordance with the National Fuel Gas Code ANSI Z223.1. 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 ANSI Z223.1, 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. When performing smoke test on oil-fired systems, the burner should operate at a zero to a trace smoke. This can indicate reduced available combustion air to burner.
6. If appliances are equipped with high and low flame control or flame modulation, check for proper main burner operation at low flame.
7. Test for spillage at draft hood or 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 draft hood, barometric draft control or burner inlet air location after power venter has stopped operation. If a flow reversal is noticed, house de-pressurization is occurring and make up air is required. For oil-fired systems, this may be noticed by oil fume smell after post purge cycle.
8. Turn on all fuel burning appliances within the same room so that they will operate at their maximum input. Then repeat Steps 5 through 7.
9. Return doors, windows, exhaust fans, fireplace dampers and any other fuel-burning appliances to their previous condition of use.

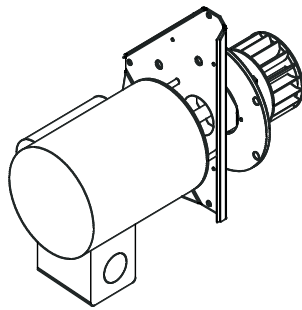
## Maintenance

1. MOTOR: Inspect the motor once a year - motor should rotate freely. Motor bearings on the SWG -10, SWG -12, and SWG -14 are permanently lubricated; no relubrication is required.
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 ensure it is secured in place. Check the barometric draft control, if installed, to ensure 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. For 30 millivolt operating systems, disconnect one lead of the spill switch circuit from the thermocouple junction block. This will shut off the pilot and the burner. Re-connection will allow relighting the pilot.

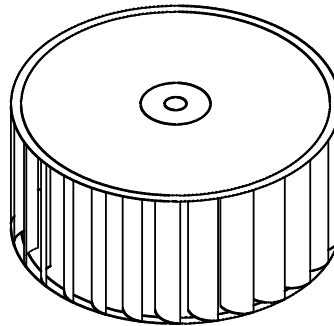
## Replacement Parts

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.

MODEL	PART NUMBERS	
	REPAIR MOTOR ASSEMBLY	BLOWER WHEEL
SWG -10	46414001	46408200
SWG -12	46414002	46408300
SWG -14	46414003	46408400



SWG Repair  
Motor Assembly



Blower  
Wheel

## REMOVAL AND INSTALLATION OF THE SWG SERIES POWER VENTER MOTOR ASSEMBLY

### Removal

1. Disconnect power to the venter and lock out the source appropriately.
2. Remove the motor enclosure cover.
3. Disconnect the motor wiring and flex conduit from the motor. (See Figure 10)
4. Using a nut driver or 1/4" drive deep socket, remove the six #8-32 lock nuts attaching the wheel cover and heat shield to the venter body. (See Figure 12)
5. While supporting the motor assembly, remove the three 3/8" nuts and washers attaching the assembly bracket to the venter, leaving the uppermost nut for last. Carefully remove the motor assembly from the venter body, taking care to avoid damaging the blower wheel or dislodging balancing weights.
6. Temporarily replace the motor enclosure cover if the unit is to be reassembled at a later time.

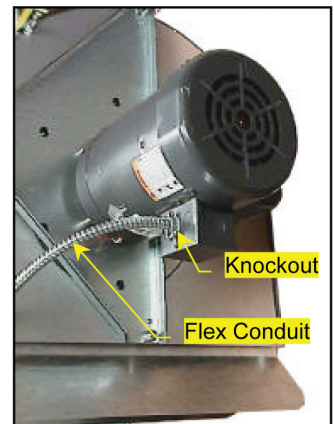


Figure 10

### Installation

1. Verify that power is disconnected to the venter motor leads and that the source is locked out appropriately.
2. After inspecting the motor and blower wheel for shipping damage, grasp the motor assembly and carefully insert the blower wheel into the venter body, using caution to avoid damaging the wheel or displacing balancing weights. Grasp the wheel heat shield and guide it onto its mounting studs, then guide the motor bracket onto its three mounting tie rods. (See Figure 11) While supporting the motor, place a lock washer and nut on the uppermost tie rod end and fasten finger tight. The motor assembly will now 'hang' by the uppermost tie rod and may be released.
3. Place the remaining two lock washers and nuts on their respective tie rods and fasten finger tight.

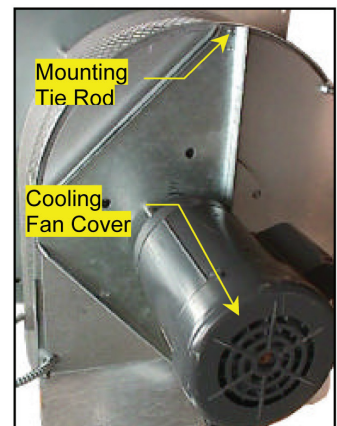


Figure 11

1. Using an 1½" nut driver or ¼" drive deep socket, locate each of the six #8-32 locknuts on their respective mounting studs and torque to 35-40 in-lb. (See Figure 12) Use caution to avoid stripping the threads!
2. Torque the three ¾" nuts to 90-100 in-lbs. Using a large Phillips screwdriver or equivalent inserted through the hole in the cooling fan cover, push the motor shaft inwards while rotating to verify clearance between the blower wheel and body assembly.
3. Remove the motor conduit box cover. Remove the motor conduit box knockout as shown in Figure 10, insert the conduit connector and wires through the knockout, and tighten the connector nut onto the connector.
4. Using the supplied wire nuts, make the wiring connections to the motor as discussed in the WIRING section. Verify that the motor is wired for the appropriate voltage and overload heater, and for the proper rotational direction. (CW when facing motor cooling fan end, as shown in Figure 11)
5. Reinstall the motor conduit box cover.
6. Install the motor enclosure, making sure to start all screws before tightening.
7. Reconnect power to the venter, and test the venting system as discussed in the General Installation Inspection section.



Figure 12

#### INITIAL BURNER AND VENTING SYSTEM OPERATIONAL INFORMATION

List the following for each operating appliance on the sidewall venting system, as a guide for tune-up or service information annually.

DATE:									
<b>FOR GAS FIRED EQUIPMENT</b>									
Heating Appliance BTU/HR Input									
Gas Valve Operation Pressure									
Vent System Draft Above Draft Hood or Before Barometric Draft Control									
CO <sub>2</sub> Measurement									
CO Measurement									
Equipment Outlet Flue Gas Temperature									
<b>FOR OIL FIRED EQUIPMENT</b>									
Oil Burner Nozzle Size									
Oil Burner Operating Pressure									
Pump Operating Vacuum Pressure									
Smoke Number									
Over-fire Draft									
Equipment Outlet Flue Gas Temperature									
CO <sub>2</sub> Measurement									

## Warranty

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