QHT-DVG

Direct Venting Systems for B-10 and SG Boilers From QHT INC.

Direct Vent Addendum

For use in conjunction with B-10, or SG atmospheric venting manuals

Please Read Instructions Carefully
Save for Future Reference

WARNING

If the information in this manual is not followed exactly, a fire explosion may result causing property damage, personal injury or loss of life.

DANGER

DO NOT store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance
- Do not touch any electric switch; do not use any phone in you r building
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you can not reach your gas supplier call the fire department

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

Distributed By:

QHT

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IMPORTANT INFORMATION
Please read this page carefully.

ALL BOILERS MUST BE INSTALLED IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL PLUMBING, HEATING AND ELECTRICAL CODES AND ORDINANCES, AS WELL AS THE REGULATIONS OF THE SERVING ELECTRICAL, WATER AND GAS UTILITIES.

All systems should be designed by competent contractors, and only persons knowledgeable in the layout and installation of heating systems should attempt the installation of any boiler.

It is the responsibility of the installing contractor to see that all controls are correctly installed and operating properly when the installation is completed.

Do not burn volatile garbage, gasoline, naphtha or other flammable liquids other than No. 2 fuel oil. All flammable liquids (especially gasoline), chemicals, rags, paper, wood scraps, debris, etc., should be kept away from the boiler at all times. Keep the boiler area clean and free of all fire hazards.

Please read the literature and warranties supplied by the manufacturers of the various accessory equipment. This equipment is warranted by the respective manufacturers, not by Quincy Hydronic Technologies, Inc. Each piece of equipment must be installed and used according to the recommendations of the manufacturer.

Codes and Regulations:

Installation of the boiler, burner, oil tank and related equipment must conform to national, state and local regulating agencies and codes applicable to the installation of the equipment. In the absence of local requirements, the following codes apply:

A. ANSI/NFPA - #31 Installation of Oil Burning Equipment
B. ANSI/NFPA - #70 National Electric Code
C. ANSI/NFPA - #211 Chimneys and Vents
D. ANSI/NFPA—#Z223.1 National Fuel Gas Code
E. ANSI/NFPA—Domestic Gas Conversion Burner
F. CAN/CGA B149

The above codes are available from:

National Fire Protection Association (NFPA)
Battery March Park
Quincy, Massachusetts 02269
OR
http://www.nfpa.org

American Gas Association (AGA)
Pleasant Valley Road
Cleveland, OH 44134
OR HTTP://www.aga.org

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WARNING

Any appliance that burns natural gas, propane gas, fuel oil, wood or coal is capable of producing carbon monoxide (CO). Carbon Monoxide (CO) is a gas which is odorless, colorless and tasteless but is very toxic.

If your BIASI boiler is not working properly, or is not vented properly, dangerous levels of CO may accumulate. CO is lighter than air and thus may travel throughout the building. **BRIEF EXPOSURE TO HIGH CONCENTRATIONS OF CO, OR PROLONGED EXPOSURE TO LESSER AMOUNTS OF CO MAY RESULT IN CARBON MONOXIDE POISONING. EXPOSURE CAN BE FATAL AND EXPOSURE TO HIGH CONCENTRATIONS MAY RESULT IN THE SUDDEN ONSET OF SYMPTOMS INCLUDING UNCONSCIOUSNESS.**

Symptoms of CO poisoning include the following:

dizziness	vision problems	shortness of breath
headache	loss of muscle control	unclear thinking
nausea	weakness	unconsciousness

The symptoms of CO poisoning are often confused with those of influenza, and the highest incidence of poisoning occurs at the onset of cold weather or during flu season. A victim may not experience any symptoms , only one symptom, or a few symptoms. **Suspect the presence of carbon monoxide if symptoms tend to disappear when you leave your home.**

The following signs may indicate the presence of carbon monoxide:

* Hot gasses from appliance, venting system, pipes or chimney, escaping into the living space.
* Flames coming out around the appliance.
* Yellow colored flames in the appliance.
* Stale or smelly air.
* The presence of soot or carbon in or around the appliance.
* Very high unexplained humidity inside the building.

If any of the symptoms of CO occur, or if any of the signs of carbon monoxide are present, **VACATE THE PREMISES IMMEDIATELY AND CONTACT A QUALIFIED HEATING SERVICE COMPANY OR THE GAS COMPANY OR THE FIRE DEPARTMENT.**

To reduce the risk of CO poisoning, have your heating system "tuned up" by a licensed heating contractor or the gas company - preferably before each heating season. Also have the service company check your chimney or vent pipes for blockage.

Your home should also be adequately ventilated, particularly if you have insulated your home.

ONLY QUALIFIED, LICENSED SERVICE CONTRACTORS SHOULD PERFORM WORK ON YOUR B-10 OR SG BOILER.

1. General Information

The QHT Direct Vent components have been designed and packaged so that the Biasi B-10 and SG boilers can be directly vented to the outside. Properly maintained, these boiler systems are unsurpassed in efficiency and will provide years of trouble-free operation.

In addition to the standard Biasi boiler package, the Direct Vent Package is supplied with a kit containing the standard make-up air and appropriate exhaust system piping and hoods for your application. The last piece of the complete package is a direct vent specific burner.

The Direct Vent Systems are a non-powered positive pressure vent hood system for gas or oil fired appliances that provides an outlet for exhaust gases and an intake for combustion air. The hood is designed to direct the hot exhaust gases away from the structure without the aid of a motorized fan. All of the internal parts in contact with the flue gases are made from corrosion resistant stainless steel.

QHT DIRECT VENT KIT:

NOTICE: All equipment should be inspected upon delivery, and any damage or shortage should be reported to the supplier and shipper immediately.

DVG-4:

INTAKE:

- 1– 8’ Length of aluminum flex duct
- 1 - 90° Light Gauge Elbow

EXHAUST:

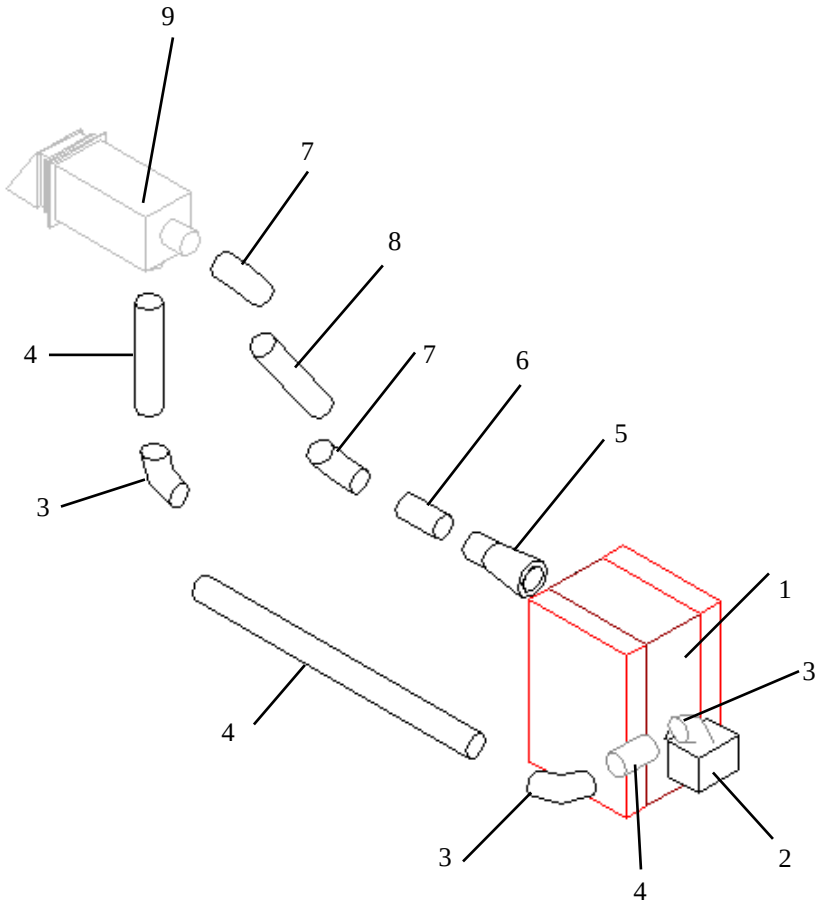
- 1 - 6” to 4” Decreaser
- 2 - 4” 90° Z-Vent Elbows
- 2 - 4” X 4’ Lengths of Z-Vent
- 1 - 4” Gas Exhaust Hood

FITTINGS AND CONTROLS:

- 1 - 1½ x 1½ x ½ Bull-Head Tee
- 1 - L4006A Aquastat
- 1 - ½” Immersion Well

1.1 Explosion Drawing

Direct Vent Gas Assembly	
Part #	Description
1	B-10 Series Boiler
2	Direct Vent Gas Burner
3	4” 90 Duct Elbow (light Gauge)
4	4” Flexible Duct Pipe
5	6” to 4” Z-Vent Reducer
6	4” Z-Vent Exhaust Pipe
7	4” Z-Vent Elbows
8	4” Z-Vent Exhaust Pipe
9	4” Concentric Vent Hood



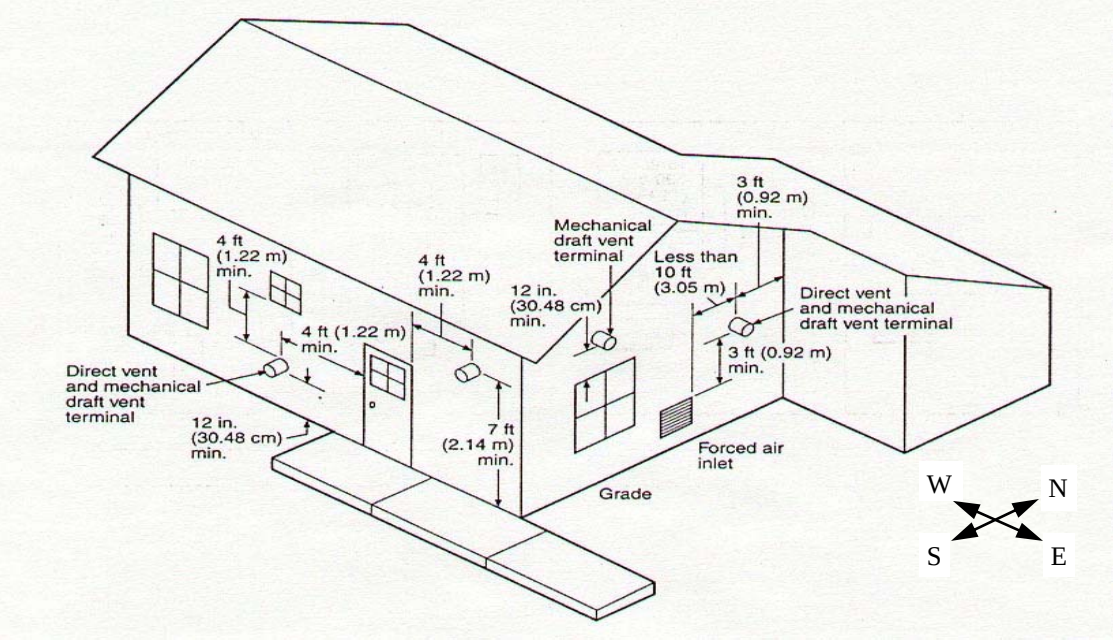
2. Iinstallation of DVG Hood

CAUTION:

EXTERNAL VENT SURFACES ARE HOT.

NOTE:

USE ONLY LISTED COMPONENTS SUPPLIED WITH THE BOILER. SURFACE DISCOLORATION OF THE BUILDING MAY OCCUR DUE TO IMPROPER BOILER/BURNER ADJUSTMENT. QHT WILL NOT ACCEPT RESPONSIBILITY OR LIABILITY FOR SUCH DISCOLORATION.



The **Exhaust Hood must be installed on the leeward side of house and conform to the following guidelines:**

1. The Vent hood shall not be less than 3 feet above any forced air inlet to the house.
2. The Vent hood shall not be less than 4 feet below, 4 feet horizontally, or 1 foot above any door, window or gravity inlet into any building.
3. The Vent hood shall not be less than 2 feet from an adjacent building.
4. The Vent hood shall be not less than 7 feet above grade when located adjacent to public walkway.
5. The Vent hood shall be located so that flue gasses are not directed to jeopardize people, overheat combustible structures, materials or enter buildings.
6. Minimum of 4’ horizontal clearance from electric meters, gas meters, regulators and relief equipment.

All joints in system are to be sealed to prevent leakage of products of combustion in the building.

Avoid installing exhaust hood on the North, West, or the side of the house receiving the prevailing winds.

NOTE:

The boiler shall be placed so that the vent pipe is as short as practical.
The **VENT HOOD** must be installed at least one foot above ground level or normal snow accumulation level in an area which is free of obstruction at all times. The Vent hood should be installed on the leeward side of the house out of the wind. Outside air must be ducted directly to the burner through the hood unit supplied. **The Direct Vent System must be gas tight.**

CLEARANCES TO COMBUSTIBLES REFER TO NFPA #211

SYSTEM OPERATING TEMP.	Clearance Enclosed		Clearance Unenclosed		Sealant Required
Temperature	Horizontal	Vertical	Horizontal	Vertical	
400° F or Less	8” (200 mm)	4” (100 mm)	1” (25 mm)	1” (25 mm)	G.E. 108 Dow Corning 732 Z-Flex Z-Vent Sealant
550° F to 400° F	8” (200 mm)	4” (100 mm)	1” (25 mm)	N/A	G.E. 106 Z-Flex Z-Vent Sealant

Note: Clearances are based on an installation of **Z-Flex Z-VENT SPECIAL GAS VENT COMPONENTS** . Routing of vent pipe can be planned after the termination location is determined.

2.1 Installation of Make-up Combustion Air:

The air intake duct kit consists of :

1 - 4” 90° Duct Elbow (light gauge)
1 - 4”X8’ Flexible Duct Pipe

NOTICE

Do not operate the burner with air intake disconnected.

1. Use 4 inch diameter pipe that is provided in the kit or a comparable single wall metal pipe. The maximum allowable length of intake pipe is ten feet not including elbows.

2. Begin installing 3” to 4” reducer at the burner and work back to the intake on the vent terminal using the 4” diameter pipe. It is not acceptable to use 3” pipe for the make-up air. Secure each joint with three screws and support the pipe every three feet.

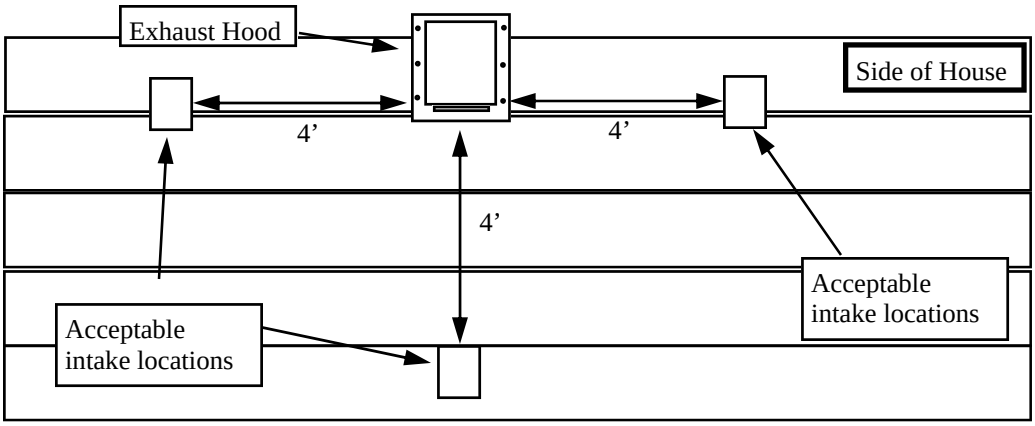
3. Seal each seam with silicone caulk or aluminum tape to ensure the entire in take run is air-tight. Securely fasten each piece of the air intake piping with at least three screws per joint and sealed with appropriate sealant.

2.1a Installation of Make-up Combustion Air

NOTICE

Do not operate the burner with air intake disconnected.

1. If you are installing a DVS system you must first locate where the intake hood will be installed.
   - The intake hood must be installed at least four feet from the exhaust terminal.
   - The intake hood may not be installed at a higher elevation than the exhaust terminal.
   - The intake hood must be installed on the same wall as the exhaust terminal



2. When an appropriate mounting position has been located, cut a 4 1/2” hole in the wall.

3. Slide the intake hood in from the outside and secure the hood with four screws. Put one screw in each corner of the hood flashing. Be sure to also seal the seam between the hood and the house with a weather repellant sealant.

2.2 Exhaust Pipe System:

The B10/SG GAS Direct Vent Systems must be installed where provisions do not exist for the ducting of combustion by products to the outside. **The direct vent connector shall not pass through any floor or ceiling.** The burner exhaust must be ducted directly to the vent hood through listed exhaust pipes provided. The exhaust pipe throughout it's entire length must be readily accessible for inspection, cleaning and replacement.

The venting system should be installed and supported in accordance with the National Fuel Gas Code, ANSI Z223.1, CAN/CGA B149 or in accordance with any local codes.

The Exhaust Kit consists of:

DVG-4 System

1 - 6" to 4" Z-Vent Reducer	2 - 4" X 4' lengths of Z-Vent pipe
2 - 4" Z-Vent 90 degree elbows	1 - 4" Stainless Steel wall thimble
1 - 4" Concentric gas hood	

Installation of DVG Exhaust:

1. Begin by locating a suitable location for the exhaust to penetrate the wall. This location should be at least 12" above ground level or the expected snow level, and on the leeward side of the house. Consult page 5 for required distances from windows, doors, etc.. The hood location must also allow for an upward slope of a 1/4" per foot for the exhaust piping.
2. Once the hood location has been determined, cut an 8" square hole through the wall for the vent terminal. Using 2" X 2", frame a box around the hole on the outside of the house for mounting the flange of the hood away from siding on house. Attach the hood to the box frame using appropriate screws to support the hood. Use one screw through each of the predrilled holes on the trim plate of the hood. Do not drill or screw through the hood at all.
3. Assemble the vent pipe to the boiler from the hood using only the supplied pipe. The vent piping should be joined in the following manner.
    - 3.1 Clean the outside male end of each pipe and the female end so that they are free of any dirt grease and moisture.
    - 3.2 Apply a high temperature silicone bead one half inch from the end of the pipe around the male end of the pipe and along the seam of the pipe one inch from the end.
    - 3.3 Insert the pipe into the female end of the next pipe or elbow as far as it will go. On straight horizontal runs of pipe be sure that the seams of the pipes lineup and are facing upward.
    - 3.4 Apply another bead of silicone on this joint and smooth it out.
    - 3.5 Tighten the gear clamp to a maximum of fifteen IN/LB.
    - 3.6 Check all joints and seams for tightness. Allow the sealant to cure for one hour prior to starting up the system.
4. The system must be supported along its horizontal length at all elbow locations and joints using straps around pipes maintaining clearance to combustibles as per the table at the bottom of page 9. Supports must be placed at least every 48" as well as all other indicated areas. Horizontal runs of pipe must slope upward at least 1/4" for every foot to prevent the gathering of condensate in the pipe. At no time should fasteners penetrate the pipe.
5. The lengths of pipe may be cut on non–expanded end using aviation snips or a hacksaw (24 tpi). The cut end must be filed or sanded smooth before joining.

3. Burner Setup:

In all boilers, regardless of fuel being burnt or configuration, a 10” X 10” Cerafiber pad should be installed under the flame. This pad is not for acoustic purposes, it is to keep the area under the nozzle warm to prevent flame out.

Burners **cannot** be properly commissioned without instruments.

1. Setting the gas pressure "by the book" using proper gauges.
2. Making careful / tight connections on the gas line.
3. Checking overfire burner draft to insure that it is adequate to overcome make-up air and flue gas resistance.
4. Setting the air band properly with calibrated instruments. The burner may not be commissioned if the CO reading is above 400 ppm. A good goal is under 30 ppm CO.

3. DVG Burner Setup

BURNER MANUFACTURER: HEATWISE MODEL - SU-2A

Boiler Model	B-3	B-4	B-5	B-6	B-3	B-4	B-5	B-6
Burner Model	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A
Firing Input (MBH)	80	115	140	175	80	115	140	175
	Natural Gas				**Propane Gas**			
Man. Pres. (WC)	3.6”	3.5”	3.2”	3.6”	2.0”	2.0”	1.8”	2.3”
Orifice Size	3/16	16/64	9/32	21/64	3/16”	7/32	9/32	21/64
Air Setting	Closed	1	8.3	13.5	Closed	Closed	7.75	13.5
Head Setting	18	17.5	15	10	22	12	15	10

Boiler Model	SG-2	SG-3	SG-4	SG-2	SG-3	SG-4
Burner Model	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A	SU-2A
Firing Input (MBH)	91	140	182	91	140	182
	Natural Gas			**Propane Gas**		
Man. Pres. (WC)	3.5”	3.5”	3.5”	2.3”	2.3”	2.3”
Orifice Size	7/32	9/32	21/64	7/32	9/32	21/64
Air Setting	Closed	8.3	14	Closed	8.5	14
Head Setting	20	15	9	22	15	9

To determine how much gas is coming into the burner, or to set the gas meter correctly, the following formula can be used.

Ft^3/hr = [3600/(sec. Per rev.)]*(Size of gas meter)

The chart to the right can be used to determine the flow rate depending upon the time per revolution and the size of the gas meter dial.

Seconds per Revolution	Size of Gas Meter Dial (Cubic Foot)		
	0.5	1	2
20	90	180	360
25	72	144	288
30	60	120	240
35	51	103	206
40	45	90	180
45	40	80	160
50	36	72	144
55	33	65	131
60	30	60	120

4. Gas Piping

Gas supply piping is to be sized and installed properly in order to provide a supply of gas sufficient to meet the maximum demand without undue loss of pressure between the meter and the boiler.

Consult with the National Fuel Gas Code ANSI Z223.1 for proper sizing of gas piping for various lengths and diameters.

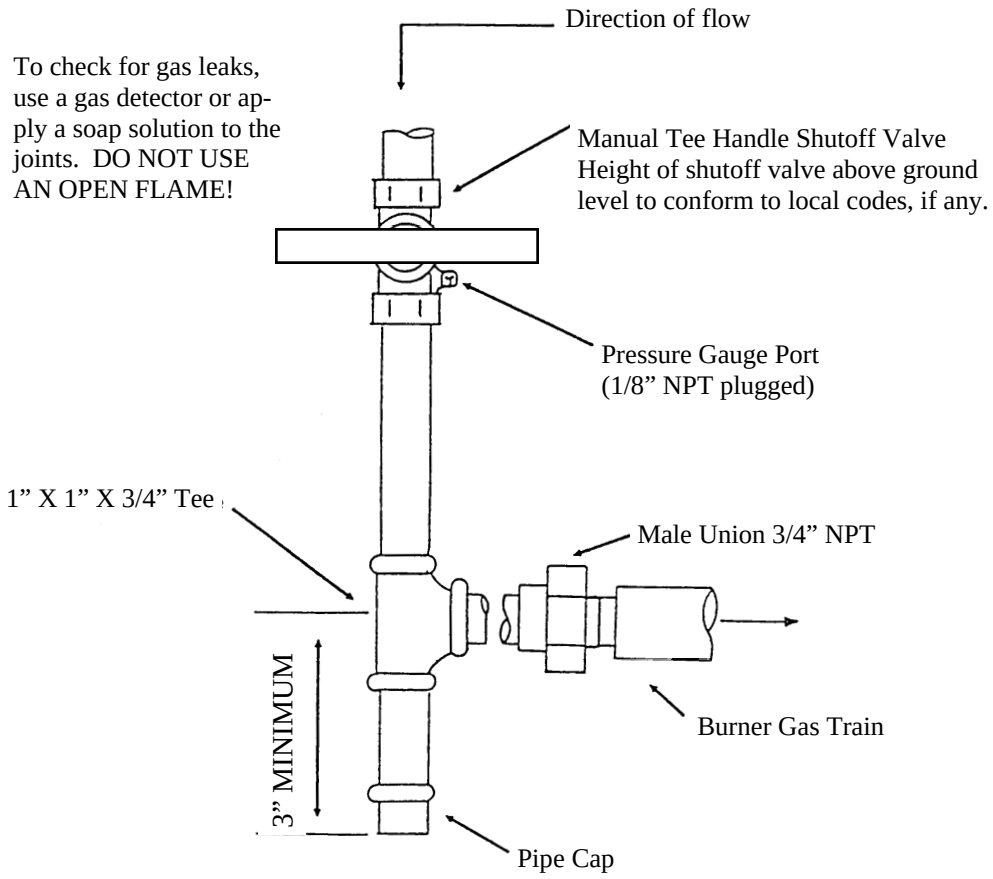
Locate a drop pipe adjacent to, but not in front of the boiler. Locate a tee in the drop pipe at the same elevation as the gas inlet connection to the boiler. Extend the drop line with a nipple towards the floor and cap to form a sediment trap. Install a shut off valve before the tee with sediment trap and a union after the tee before the combination gas valve.

NOTE: WHEN INSTALLING THE BOILER, MAKE SURE A PIPE COMPOUND RESISTANT TO THE ACTION OF LIQUIFIED PETROLEUM IS USED.

Check piping for leaks. Always check leaks with a water and soap solution. DO NOT USE A FLAME FOR CHECKING GAS LEAKS

The boiler and its individual shut-off valve must be disconnected from the gas supply piping during any pressure testing of that piping at test pressures in excess of 1/2 psi.

INSTALLATION OF SEDIMENT TRAP AND BURNER SUPPLY



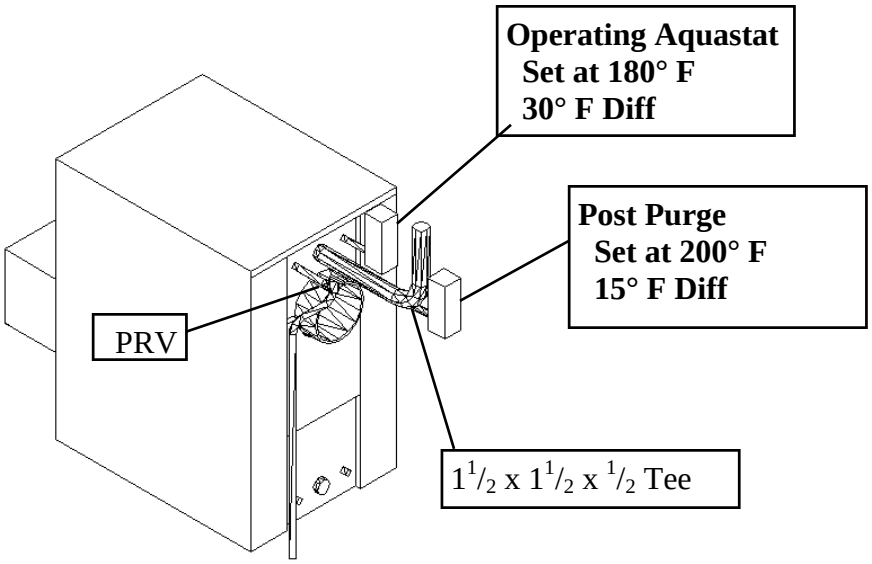
5. Wiring:

The electricity to the boiler shall come from a dedicated breaker in the electric service box. A service switch should be mounted on the side of the boiler so the burner technician can service the burner and controls. The electrical wiring should be routed so as not to interfere with normal servicing of the boiler. Wiring done in the field between devices not attached to boiler shall conform with the temperature limitations for type T wire (63F/35C) or other specified wire as applicable when installed in accordance to manufacturer's instructions and wiring diagrams.

If an external electrical source is utilized, the boiler, when installed, must be electrically bonded to ground in accordance with the requirements of the authority having jurisdiction or , in the absence of such requirements, with the National Electrical Code, ANSI/NFPA 70 or Canadian Electrical Code Part I,CSA C22.1, Electrical Code.

The L4006A Post Purge Aquastat is installed to ensure that if the boiler exceeds 200° F all power is disconnected to the burner. The aquastat should be mounted on the supply side of the boiler into the supplied bullhead tee. To wire the post purge aquastat please refer to the schematics for your specific burner on the following pages.

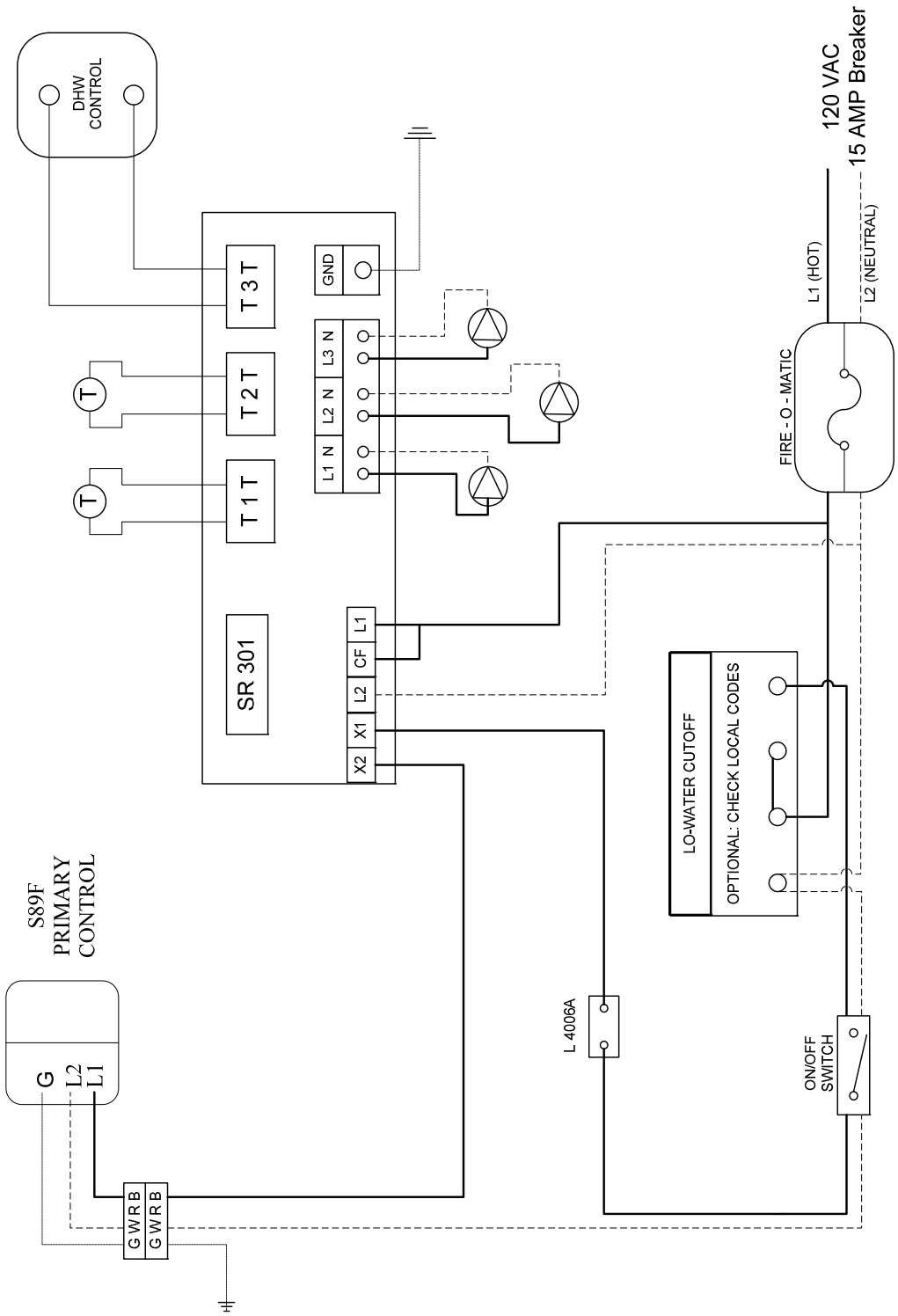
POST PURGE and HIGH LIMIT CONTROL



The post purge control (L4006A) must be mounted on the immersion well in $1^1/_2$ x $1^1/_2$ x 1/2 tee supplied with DVH Trim Kit.

5. WIRING

Heat Wise SU-2A Gas burner, multi-zone, control wiring with DHW priority



Note 2: All wiring must be done in accordance with applicable state, local and national codes. Use only copper conductors.

6. SYSTEM START-UP

"For Your Safety Read Before Operating"

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Refer to the user's information manual provided with this boiler. Installation and service must be performed by a qualified installer, service agency or the gas supplier

WARNING: If installed as a direct vent boiler, make sure after service that both the vent intake and exhaust are both properly reinstalled and sealed.

This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

A) BEFORE OPERATING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

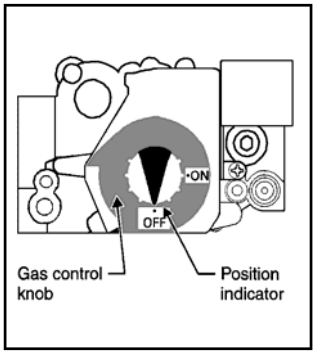
- Do not try to light any appliance
- Do not touch any electric switch; do not use any phone in you r building
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you can not reach your gas supplier call the fire department

B) Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

C) Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS:

1) STOP! Read the safety information above .
2) Set thermostat to lowest setting
3) Turn off all electric power to the appliance
4) Do not attempt to light the burner by hand
5) Turn the manual shut off on the combination gas valve clockwise to the off position.



6. SYSTEM START-UP CONT.

6) Wait five minutes to clear out any gas. Then smell for gas, including near the floor. **If you smell gas, STOP!** Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
7) Return the manual valve on the combination gas valve to the on position by reversing step "5".
8) Turn on all electric power to the appliance.
9) Set thermostat to the desired setting.
10) Once the system is lit, inspect the entire installation.
11) Make sure the pressure in the boiler is stable.
12) Test both 4006A high limits by lowering their set points below the temperature of the boiler one at a time. If either aquastat fails to shut the burner down replace it immediately.
13) Simulate a loss of fuel by shutting the gas valve. Once the valve is closed the burner should go into post – purge and then lockout.
14) Reset the burner before turning the gas back on to simulate ignition failure. After ignition failure the burner should go through a purge period and then lookout.
15) Open the gas valve and return the burner to operation. While the burner is running, trip the breaker at the panel, that should disable the burner and all other heating controls.
16) Once it is determined that the system is operating properly, proceed to tuning up the burner using the proper instruments. If you do not have any instruments, do not place this unit in operation until you have a competent gas installer tune up the burner.

7. INSTALLATION INSPECTION:

Recommended procedures for safety inspection of an appliance should be 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. Place in operation the appliance being inspected. Follow the lighting instructions and adjust thermostat so appliance will operate continuously.
3. Determine that the burner is operating properly and that the burner ignition operates satisfactorily by interrupting and re-establishing the electrical power of the appliance in any convenient manner. Test the burner safety device to determine if it is operating properly by disconnecting the flame safety circuit.
4. Test for smoke spillage at the burner inlet air location around the VRV after 5 minutes of operation. Use a draft gauge, flame of a match or candle, or smoke from a cigarette, cigar or pipe. Shut off appliance thermostat and check for spillage around the VRV. If a flow reversal is noticed, house depressurization is occurring and make up air is required.

Once installation is complete, check the boiler with instruments to ensure that it is working properly.

8. Service & Maintenance:

In order to ensure that the boiler is operating properly, it should be inspected annually at the beginning of the heating season by a qualified service technician. Failure to do regular maintenance on the boiler, could result in a loss of system efficiency as well as equipment failure.

1) Turn off all electrical power to the boiler before servicing any part of the boiler.
2) During the inspection process, the technician should inspect and correct problems that the owner has noted.
3) Check the area around the boiler to ensure that no combustibles are in the area.
4) Remove any obstruction from the ventilation and combustion air openings to the boiler room. Check to ensure that the openings are open.
5) Check the boiler vent discharge and air intake to ensure that they are unobstructed. If obstructions exist, remove.
6) Visually check the entire flue gas venting system for blockages, deteriorations and leakages. Repair any problems that are found in accordance with local or national codes. (Failure to repair leakages can result with CO (Carbon Monoxide) Poising which can lead to death.)
7) Disconnect vent pipe from the breeching and remove front upper and lower door. Use a light to inspect the boiler heating surfaces. If signs of soot are showing, clean boiler heating surfaces with a wire brush and vacuum and debris in the boiler.
8) Reconnect the vent pipe to the breeching. Put silicon back onto the joint and tighten the clamps before restarting the boiler.
9) With the power to the boiler still off, remove the burner and follow manufactures instructions for cleaning.
10) Before putting burner back onto the boiler, check the insulation on the door. If the insulation is damaged or displaced, do not operate the boiler until the insulation has been repaired or replaced. (Failure to replace damaged insulation can result in a fire hazard and can cause personal injury or death, and can cause substantial property damage.)
11) Return the boiler to normal operation and check all controls before leaving the job.

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6) Visually check the entire flue gas venting system for blockages, deteriorations and leakages. Repair any problems that are found in accordance with local or national codes. (Failure to repair leakages can result with CO (Carbon Monoxide) Poising which can lead to death.)
7) Disconnect vent pipe from the breeching and remove front upper and lower door. Use a light to inspect the boiler heating surfaces. If signs of soot are showing, clean boiler heating surfaces with a wire brush and vacuum and debris in the boiler.
8) Reconnect the vent pipe to the breeching. Put silicon back onto the joint and tighten the clamps before restarting the boiler.
9) With the power to the boiler still off, remove the burner and follow manufactures instructions for cleaning.
10) Before putting burner back onto the boiler, check the insulation on the door. If the insulation is damaged or displaced, do not operate the boiler until the insulation has been repaired or replaced. (Failure to replace damaged insulation can result in a fire hazard and can cause personal injury or death, and can cause substantial property damage.)
11) Return the boiler to normal operation and check all controls before leaving the job.

9. Installer Notes: