

User's Information Manual VICTORY II SERIES GAS BOILERS

FOR YOUR SAFETY:

- Before operating this boiler, READ this manual.
- DO NOT attempt to install, service or repair this boiler yourself. There are no user serviceable parts. Contact a qualified service agency if your boiler needs repair or maintenance. Ask your gas supplier for a list of qualified service agencies.
- A qualified service agency should inspect the venting system of this boiler on an annual basis.



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

- DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- WHAT TO DO IF YOU SMELL GAS
 - DO NOT try to light any appliance.
 - DO NOT touch any electrical switch. DO NOT use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Your gas boiler must be installed and serviced by a qualified service agency or gas supplier. The lack of proper service can result in a dangerous condition.

This manual must be left with owner, hung on or adjacent to the boiler. Owner should retain manual for future reference.

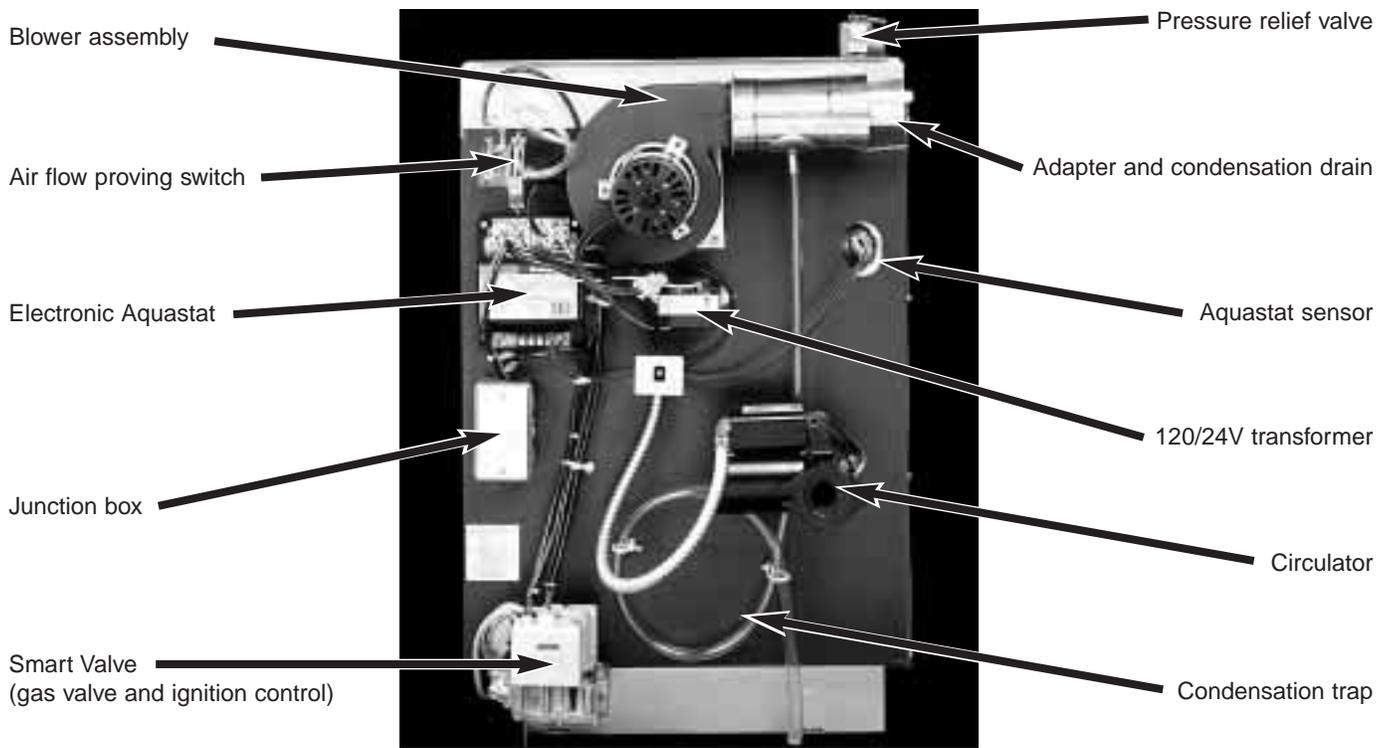


Figure 1. Location and identification of parts

WELCOME TO OUR VALUED CUSTOMER

You are now the owner of a Slant/Fin Victory II gas-fired boiler, another quality heating product designed and manufactured by an industry leader, to provide your family with many years of reliable comfort and trouble-free performance.

The care and maintenance of your new boiler is important to prevent a hazardous condition which might result from lack of proper servicing. Therefore, you should perform regular "owner" inspections as described in this manual (and report any concerns to a qualified service technician) as well as have your boiler serviced by a qualified service technician at least once a year, preferably before the beginning of each heating season.

LIGHTING INSTRUCTIONS

Locate, read and then follow the procedures on the lighting instructions label attached to the boiler. For reference, we have reproduced those instructions in this manual.

DO NOT use this boiler if any part has been underwater. Immediately call a qualified service technician to inspect the boiler and to replace any part of the control system and any gas control which has been underwater.

WARNING

Should overheating occur or the gas supply fail to shut off, DO NOT turn off or disconnect the electric supply to the circulator pump. Instead, shut off the gas supply at a location EXTERNAL to the appliance.

WARNING

SLANT/FIN DOES NOT PERMIT THE USE OF VENT DAMPERS ON VICTORY II SERIES BOILERS. OTHER DAMPERS OR DEVICES WITH SIMILAR PURPOSE ARE NOT PERMITTED.

Keep the boiler area clean and free of all materials that can burn.
NEVER close or reduce openings that supply air for the boiler fire and for ventilation.

INSPECTION

Your boiler and heating system will last an indefinitely long time at full efficiency, if it is inspected regularly and is kept in good repair and adjustment. You, the user, should make regular inspections, and report any problems to your service agency. At regular intervals, you should have that agency inspect the system, clean the boiler and make repair adjustments as necessary. What you and the service agency should do is listed below. Contact your gas supplier for a list of qualified service and repair agencies.

USER INSPECTION

The user should make the following inspections at least once each month during the heating season and once just before cold weather starts:

1. Venting System Inspection

A. Horizontal or Vertical Pressure Venting Inspection

All Victory II boilers may be vented horizontally through an outside wall (see Figure 2), through the roof (see Figure 3) or vertically utilizing an existing chimney as a chase (see Figure 4). In all cases a 3" diameter AL29-4C* stainless steel venting material MUST be used.

Inspect the system regularly for condensation, corrosion and/or physical damage. A qualified professional should service the boiler annually and include such an inspection at that time. The homeowner should look over the system monthly for damage, water stains, any signs of rust, other corrosion or separation of the flue (vent) and fittings.

Should an inspection turn up signs of condensation, corrosion or damage, the boiler should be shut down immediately and the condition should be corrected by a qualified professional.

If the boiler is vented horizontally through the wall, the outside termination and screen should be checked for any debris blocking the opening and cleaned as required.

B. Chimney or Type "B" venting

Only models VH-90, VH-120, VH-150 and VH-180 may be vented directly into a chimney with 5, 6, or 7 inch diameter standard metal smoke pipe (galvanized). See Figure 5. Make sure pipe joints are snug and are fastened with screws. The chimney joint should be filled with cement to prevent leakage. There should be no visible signs of rust or salts from water evaporation.

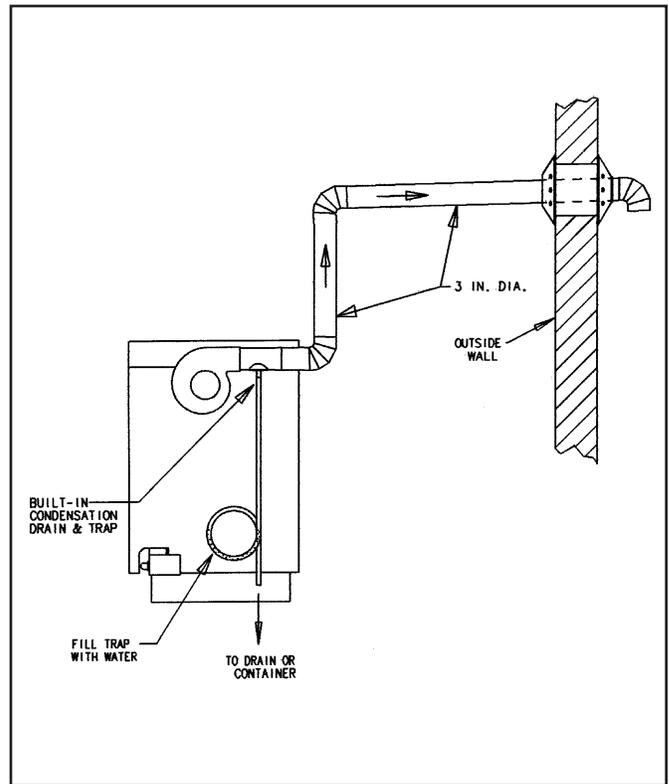


Figure 2. Horizontal pressure venting, side wall venting

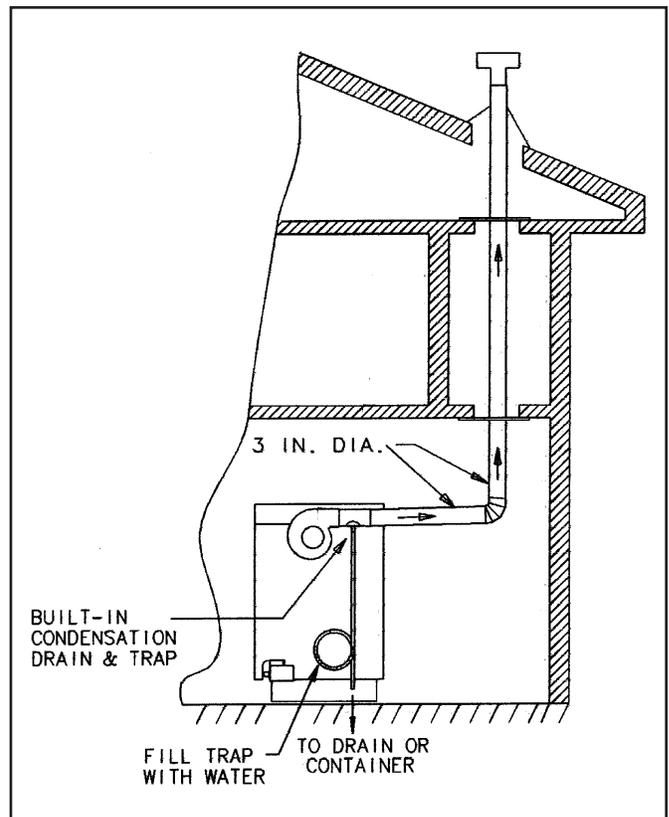


Figure 3. Vertical pressure venting through the roof

*: AL-4C is a registered trademark of Allegheny Ludlum Corp.

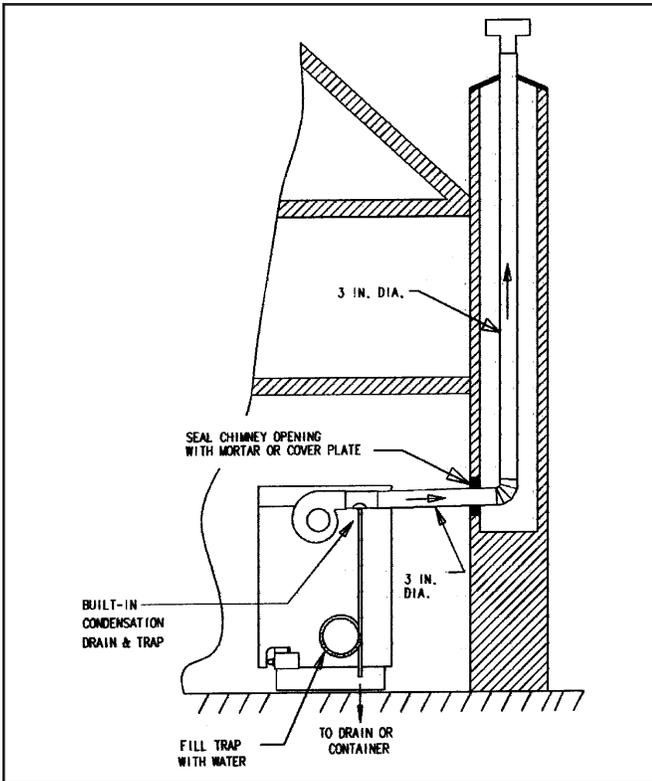


Figure 4. Vertical pressure venting through chimney

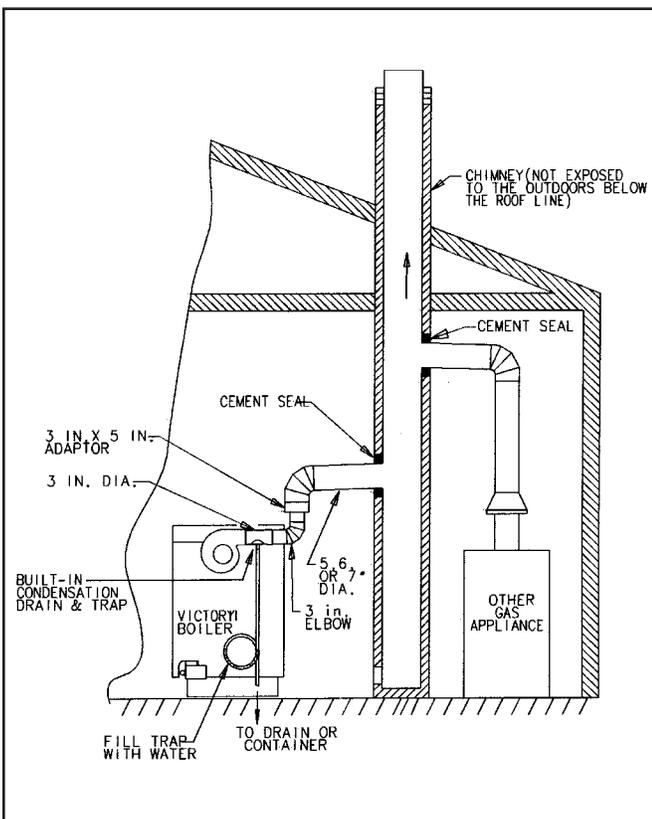


Figure 5. Chimney venting

2. Condensation Drain Trap Inspection

Check condensation drain trap to be full of water. Check for deterioration of the tubing. Check that trap is not plugged. DO NOT operate the boiler without filling the trap with water to prevent flue gas discharge into space. The drain should extend to a floor drain or to a container which may require emptying periodically.

3. Piping Inspection

Look at all water piping. There should be no leaks or signs of leaks at any pipe joints or around the boiler.

4. System Water Pressure Inspection

The temperature and pressure gauge indicates the pressure in the boiler at each water temperature. For most installations, it should indicate about 12 to 15 psi pressure when temperature is about 70 to 100 degrees F and from 15 psi to 25 psi when temperature is up to 240 degrees F. FOR YOUR SYSTEM, there is one correct pressure for each temperature. ASK YOUR INSTALLER OR SERVICEPERSON TO EXPLAIN AND SHOW YOU. Learn what normal pressures to look for. If pressure decreases from normal, your system is losing water. If pressure rises from normal, the relief valve will open to relieve the pressure. Call your service organization if pressures are higher or lower than normal, and if the relief valve spills water. Repair or adjustment is needed.

5. Diagnostic Light

With main burners firing, the diagnostic indicator light status must be "bright-dim" indicating normal operation, it is "off" when main burners are not firing (normal condition). When a system failure occurs, indicator light will show a series of flashes. The number of flashes that occur after the short no-flashing intervals indicate system problem. Using the following table, determine failure for number of flashes you counted. Call a qualified service technician and report your boiler model plus the number of flashes you counted and the code for the flashes. This will help the service technician arrive with appropriate replacement parts.

WARNING: Only a trained, experienced service technician should perform troubleshooting.

6. Unusual Noise

Stand near the boiler and look and listen. As the burners start and shut off, there should be no unusual noise. No fire should be visible coming out from the front of the boiler when the burners start or run.

Diagnostic Indicator Light (LED) Codes

<i>LED Status</i>	<i>Indicates</i>
Bright - Dim	Normal operation, boiler heating period
Off	<ol style="list-style-type: none"> 1. Thermostat not calling for heat, normal operation 2. High limit of electronic Aquastat open, normal condition 3. No power 4. Defective Aquastat 5. Defective transformer 6. Harnesses plug-in connector is not securely connected at both ends 7. Damaged harnesses or connectors
2 Flashes	Air flow proving switch remains closed longer than 30 seconds after call for heat begins
3 Flashes	<ol style="list-style-type: none"> 1. Ignition system control switch on Smart Valve is on "OFF" position 2. Air flow proving switch remains open longer than 30 seconds after combustion air blower energized 3. Obstruction or restriction in boiler venting system 4. Blower motor not operating
4 Flashes	Roll-out switch open
5 Flashes	Improper flame signal
6 Flashes	<p>System Lockout</p> <ol style="list-style-type: none"> 1. Gas supply off or at too low pressure to operate boiler 2. Damaged or broken hot surface ignitor (HSI) 3. Boiler not properly earth grounded 4. Pilot burner flame not adjusted properly 5. Flame sensor contaminated 6. Defective pilot burner lead wires

7. Boiler Room Air Supply Inspection

Ample air is required for your boiler to burn fuel cleanly and safely. Check to make sure all air vents are open and free of obstruction. Air needs are greatest in cold weather.

WARNING: *The flow of combustion and ventilating air to the boiler should not be obstructed.*

WARNING: If you find any problem during your inspection, call for service immediately.

Annual Service Technician Inspection

A trained and qualified service technician should perform these inspections before each heating season:

1. Safety Check

Removing Control Box (cover). See figure 6. To remove control box:

- a. Turn back screw 1/4 turn clockwise to open position .
- b. Remove two sheet metal screws in the top of control box.
- c. Remove control box.

To replace the box, reverse procedure. Be sure that black screw is in the lower bracket receptacle and lock position .

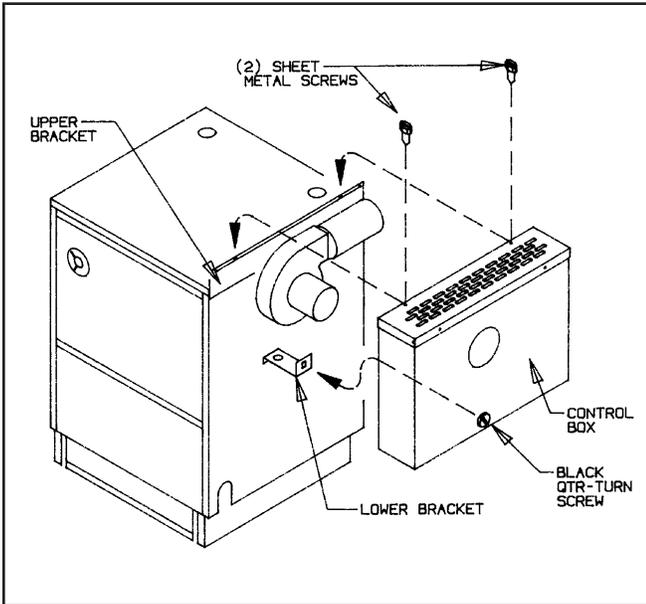


Figure 6.

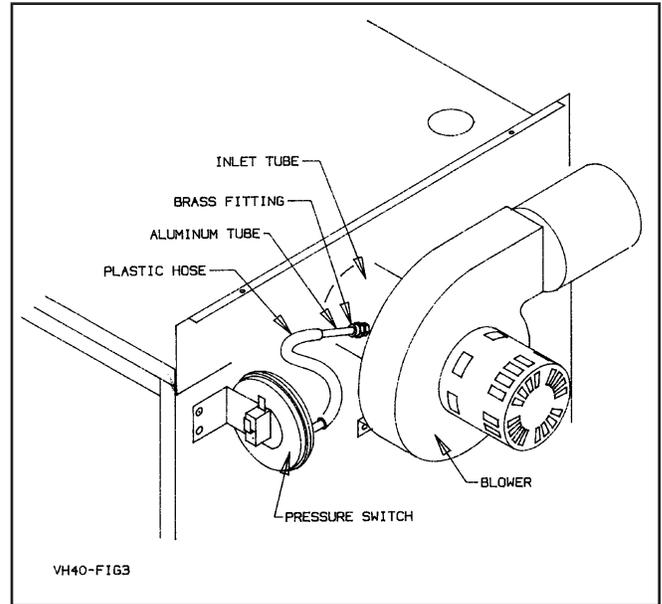


Figure 7.

A. High Limit Control Test

Set thermostat high enough for water temperature to reach high limit control setting of electronic Aquastat. When this temperature is reached, the high limit switch should open and the main gas valve should close automatically. The diagnostic indicator light (LED) on Smart Valve should turn off.

B. Gas Control Safety Shutdown Test

With main burners firing, disconnect sensor and ignitor wires by removing plug-in wires from C2 connector on the Smart Valve (see Figures 9 and 10). Gas valve should shut off the main burners. After approximately 90 seconds, the diagnostic indicator light should flash 6 times.

C. Air Flow Pressure Switch Test

With main burners firing, remove plastic hose from Pressure Switch (see Figure 7). Gas valve should shut off the main burners. After approximately 90 seconds, the diagnostic indicator light should flash 6 times.

WARNING: If any of the above controls fail to operate properly, they must be replaced.

D. Checking for Gas Leaks

Using soap solution, check for gas leaks from meter to burner, including gas piping, manifold and pilot burner.

DO NOT use open flame.

2. Venting System Inspection

See Page 3 for instruction.

3. Condensation Drain Trap Inspection

See Page 4 for instruction.

4. Piping Inspection

Check the following:

- A.** Water piping and accessories for leaks. Slightest leaks should be corrected.
- B.** System to be full of water and pressure to remain stable at correct setting on gauge.
- C.** Air-control system. Noise and air binding in radiation should not occur.
- D.** Low water cutoff for operation (see instructions furnished with unit).
- E.** Check water pressure and add water slowly to system when needed. If much water is added, venting may be necessary. Regular loss of water from boiler system may indicate either a system leak, or a faulty air control system, or a faulty automatic fill valve.

5. Boiler Room Air Supply Inspection

Check air vents for continued positive supply of air as required. Air needs are greatest in cold weather. Air vents must be open and free of obstruction.

WARNING: The flow of combustion and ventilating air to the boiler should not be obstructed.

ANNUAL SERVICE TECHNICIAN INSPECTION AND CLEANING

A. Flue passage cleaning

See Figure 8. It is suggested that paper be placed on burners to collect any foreign material in cleaning flues.

1. Remove control box (see instruction under "Safety Check").

2. Remove jacket top.
3. Remove inducer assembly.
4. Remove flue collector.
5. Use wire brush to clean flue passages.
6. Replace flue collector and re-seal with furnace cement.
7. Replace inducer assembly, jacket top and control top.
8. Remove and dispose of paper and accumulated material.

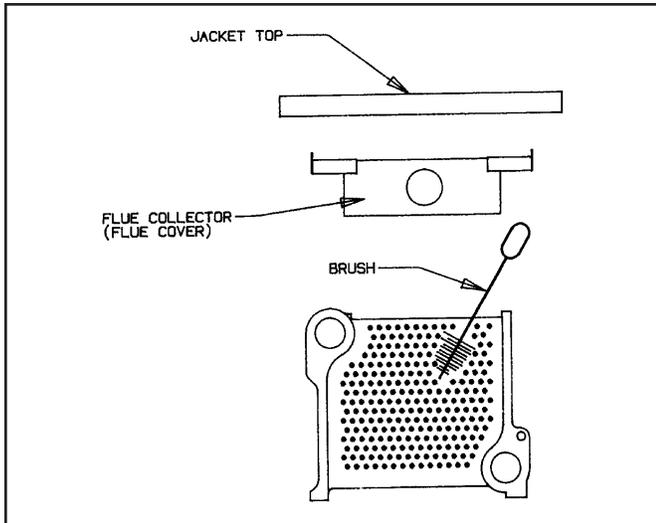


Figure 8.

B. Cleaning of burners

If burners' surfaces are not clean, or uneven flame indicates plugged burner parts, remove and clean burners.

1. Disconnect sensor and ignitor wires by removing plug-in wires from C2 connector on the Smart Valve (see Figures 9 and 10).
2. Remove pilot gas line at gas valve.
3. Disconnect pilot burner assembly from pilot bracket.
4. Lift burner and remove burner from orifice.
5. Clean burners. To clean burners, run a clean flue brush up the tube until all foreign matter is removed.
6. Replace burners, pilot assembly, ignitor and sensor wires.
7. Adjust burners and pilot flame.

- C. Adjust main burners and pilot flames. See "Installation and Operating Instructions", Publication VH-40 for instructions.
- D. Check input gas rate to the burners. See Publication VH-40 for instructions.
- E. To prolong the life of inducer motor, lubricate with 6 drops of Anderol 465 annually.

FLAME ROLL-OUT SAFETY SHUT-OFF SWITCH

All Victory II boilers are equipped with a single use flame roll-out safety shut-off switch. It will shut off main gas burners in the event the flow of combustion products through the boiler flue passages are reduced. If this safety switch has actuated to shut off the main burners, DO NOT attempt to place the boiler in operation, but contact a qualified service agency.

SAFETY AND OPERATING INSTRUCTIONS

Follow the lighting instructions in this manual. These instructions are also attached to the boiler.

SAFETY INFORMATION

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.*

- A. This appliance is equipped with an ignition device which automatically lights the pilot. DO NOT try to light the pilot by hand.
- B. 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 your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.

C. DO NOT use this appliance if any part has been underwater. 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 underwater.

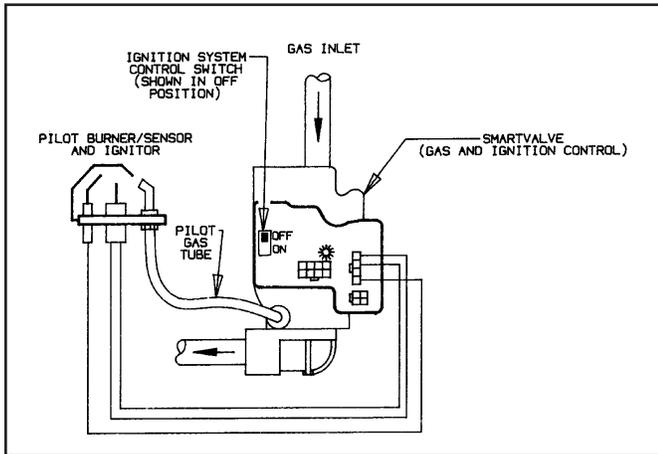


Figure 9.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information on page 7.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the pilot. DO NOT try to light the pilot by hand.
5. Move the ignition system control switch ↑ to the OFF position.
6. Wait five (5) minutes (longer for propane) to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information on page 7. If you don't smell gas, go to next step.
7. Move the ignition system control switch ↓ to the ON position.
8. Turn on all electric power to the appliance.
9. Set thermostat to desired setting.
10. If appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service or gas supplier.

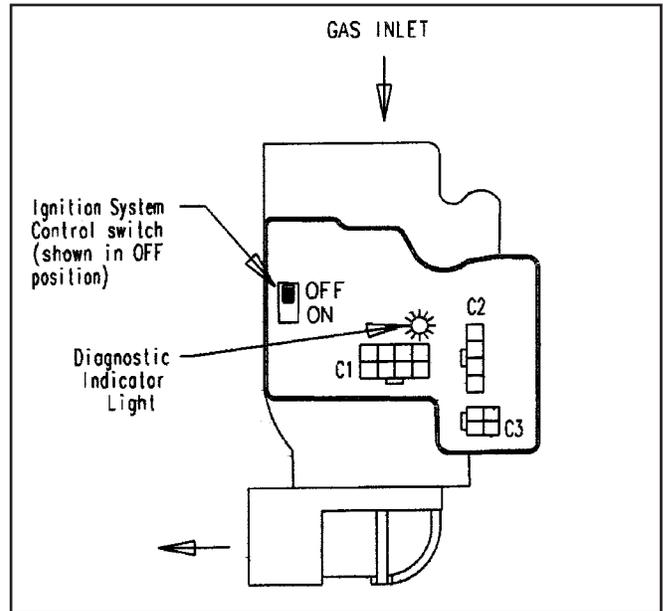


Figure 10.

To Turn Off Gas to Appliance

1. Set thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Move the ignition system control switch ↑ to the OFF position.
4. Turn off the gas supply to the appliance.

Your gas boiler must be installed and serviced by a qualified service agency or gas supplier. The lack of proper service can result in a dangerous condition.