

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

| | | |
|----------------------|--|---------------------|
| Permit No: 04-766 | Issue Date: PERMIT ISSUED DEC 29 2004 | CBL: 117 D021001 |
|----------------------|--|---------------------|

| | | | |
|---|--|---|---|
| Location of Construction: 63 William St | Owner Name: Ranello Thomas A & | Owner Address: 63 William St | Phone: |
| Business Name: | Contractor Name: Jims Plumbing & Heating Inc. | Contractor Address: 98 Lamb Rd Westbrook | Phone: 207 8548068 |
| Lessee/Buyer's Name | Phone: | Permit Type: HVAC | Zone: |
| Past Use: 3 unit dwelling | Proposed Use: 3 unit dwelling / replace boiler in basement w/ BIASI B-10 Boiler system, in same footprint. | Permit Fee: \$75.00 | Cost of Work: \$6,000.00 |
| Proposed Project Description: | | CEO District: 2 | FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied Signature: <i>[Signature]</i> |
| | | INSPECTION: Use Group <i>V</i> Type <i>Heating</i> <i>2003 IMC</i> Signature: <i>[Signature]</i> | |
| | | PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input checked="" type="checkbox"/> Denied Signature: _____ Date: _____ | |

| | | | | |
|---|--|---|---|---|
| Permit Taken By: Idobson | Date Applied For: 11/30/2004 | Zoning Approval | | |
| <ol style="list-style-type: none"> This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. Building permits do not include plumbing, septic or electrical work. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work.. | | Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> late: _____ | Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied late: _____ | Historic Preservation <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied late: _____ |

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

| | | | |
|---|---------|------|-------|
| SIGNATURE OF APPLICANT | ADDRESS | DATE | PHONE |
| RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE | | DATE | PHONE |

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389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

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| Permit No: 04-1766 | Date Applied For: 1113012004 | CBL: 117 D021001 |
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| Business Name: | Contractor Name: Jims Plumbing & Heating Inc. | Contractor Address: 98 Lamb Rd Westbrook | Phone (207) 854-8068 |
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| | |
|--|--|
| Proposed Use: 3 unit dwelling / replace boiler in basement w/ BIASI B-10 Boiler system, in same footprint. | Proposed Project Description: replace boiler in basement w/ BIASI B-10 Boiler system, in same footprint. |
|--|--|

Dept: Zoning **Status:** Approved **Reviewer:** Tammy Munson **Approval Date:** 12/28/2004
Note: **Ok to Issue:**

Dept: Building **Status:** Approved with Conditions **Reviewer:** Residential Plan Review **Approval Date:** 12/28/2004
Note: **Ok to Issue:**

1) Installation shall comply with 2003 International Mechanical Code and State of Maine Oil and Solid Fuel Board Laws and Rules



FILL IN AND SIGN WITH INK

117 D 021

APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL 23 Williams Use of Building 3 apt Date 11/29/04

Name and address of owner of appliance Tom Ranello

Installer's name and address JIM'S Plg HTP Westbrook
Telephone 650 0611

Location of appliance:

- Basement
- Attic
- Floor
- Roof

Type of Fuel:

- Gas
- Oil
- Solid

Appliance Name: B12551 - Amegotprint

U.L. Approved Yes No

Will appliance be installed in accordance with the manufacture's installation instructions? Yes No

IF NO Explain: _____

The Type of License of Installer:

- Master Plumber # 1948
- Solid Fuel # _____
- oil# MS 30001458
- Gas # _____
- Other _____

Type of Chimney:

- Masonry Lined
Factory built _____
- Metal
Factory Built U.L. Listing # _____
- Direct Vent
Type _____ UL# _____

Type of Fuel Tank

- Oil
- Gas

Size of Tank 275

Number of Tanks 1

Distance from Tank to Center of Flame 10 feet.

Cost of Work: \$ 26,000

Permit Fee: \$ 75.00

NOV 29 2004

Approved

Fire: _____
Ele.: _____
Bldg.: _____

Approved with Conditions

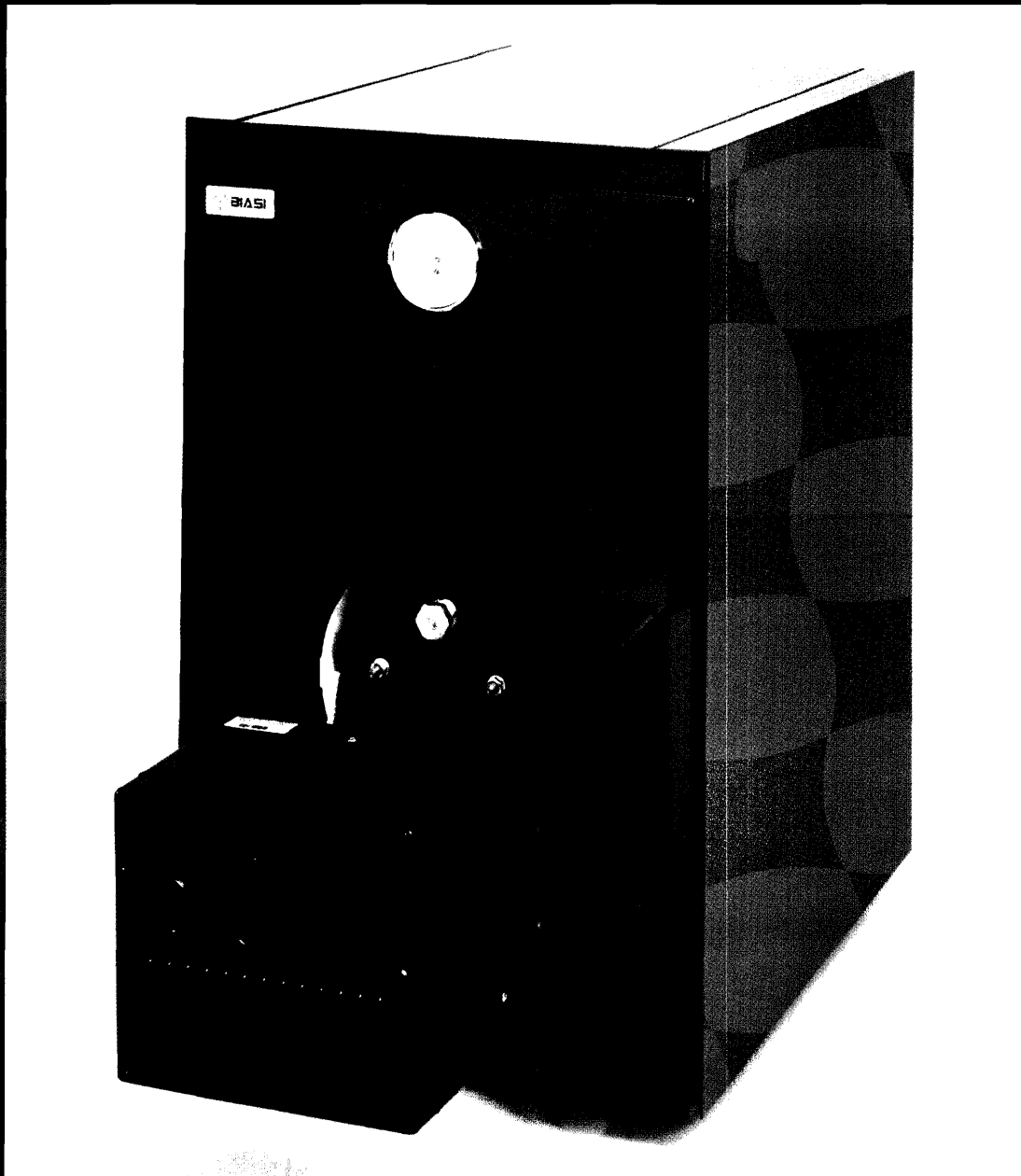
- See attached letter or requirement

Inspector's Signature

Date Approved

Signature of Installer _____

The BIASI B-10 Boiler System

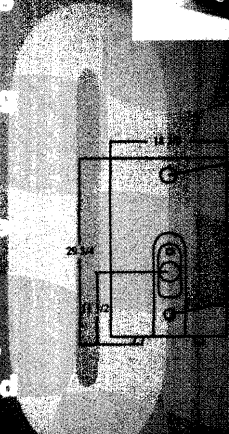


- Energy Star compliant
- Compact size
- Limited lifetime warranty

Quincy Hydronic Technology, Inc. • 1-800-501-7697 • Email: qhtinc@aol.com

BIASI...The Style of Warmth

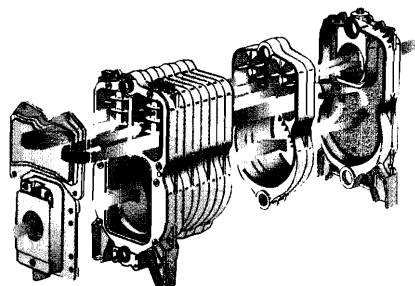
The B-10 boiler systems have been heating residential and commercial buildings throughout the world for years. They have proven their fuel efficiency and durability in countries where fuel can cost up to four times as much as in the U.S. The same fuel saving technology is now available here in North America. With the three pass boiler design and low water content, heat is quickly supplied for your heating zones and domestic hot water needs. Combined with the Optimizer reset control, you can achieve a fuel savings of up to 40% over conventional pin type boilers. You will also have peace of mind since the B-10 boiler package is compliant to all U.S. standards and codes and is IBR rated. The B-10 boiler system is the cost-competitive heat and hot water system of choice.



The BIASI B-10 for Residential or Commercial Buildings

| Boiler Model # | Heating Capacity | Gross Input Burner Capacity | | Net Output (MBH) | AFUE Efficiency (%) | Water Content (Gals.) | Length (L) (Inches) | Weight (Lbs.) |
|----------------|------------------|-----------------------------|-----|------------------|---------------------|-----------------------|---------------------|---------------|
| | | G.P.H. | MBH | | | | | |
| B-3 | 67 | 0.55 | 80 | 58 | 86.7 | 3.7 | 15.5 | 247 |
| B-4 | 110 | 0.90 | 115 | 96 | 85.7 | 4.7 | 19.5 | 307 |
| B-5 | 124 | 1.00 | 140 | 108 | 87.3 | 5.7 | 23.5 | 367 |
| B-6 | 153 | 1.25 | 175 | 133 | 86.8 | 6.7 | 28.5 | 427 |
| B-7 | 185 | 1.50 | 215 | 161 | 86.9 | 7.7 | 33.5 | 486 |
| B-8 | 211 | 1.80 | 257 | 183 | 86.9 | 8.7 | 38.5 | 546 |
| B-9 | 257 | 2.10 | 298 | 223 | 86.6 | 9.7 | 42.5 | 606 |

Maximum water working pressure: 50 PSI. (1) The burner input is based on oil with a heat value of 140,000 BTU/Gal.; (2) The net output ratings shown are based on piping and pick-up allowance of 1.15; (3) The efficiency ratings are based on a combustion condition of 12.5% CO₂. Warranty: The BIASI B-10 boiler has a limited lifetime warranty. A copy is provided with each boiler or is available from your dealer. Built in accordance with the requirements of ASME boiler and pressure vessel code.



A 3-pass boiler design is the most efficient way to get the maximum amount of heat from the boiler. The design extracts heat from three times as much interior surface area of the boiler, compared to a single-pass, "pin-type" boiler design.

Technical Advantages

- Gas or oil burner compatible
 - Easy access swing door
- No flue required; can be direct vented outdoors
- Low water content boiler heats up faster with less fuel
 - Opti-miser™ outdoor reset control available
 - Efficient 3-pass heat exchanger boiler design
 - GG20 cast-iron construction for superior heat retention and durability
 - ASME rated to 58 psi
- Tested and listed to UL 726
 - IBR listed

Exclusively distributed by:



Quincy Hydronic Technology, Inc. • 1-800-501-7697 • Email: qhtinc@aol.com



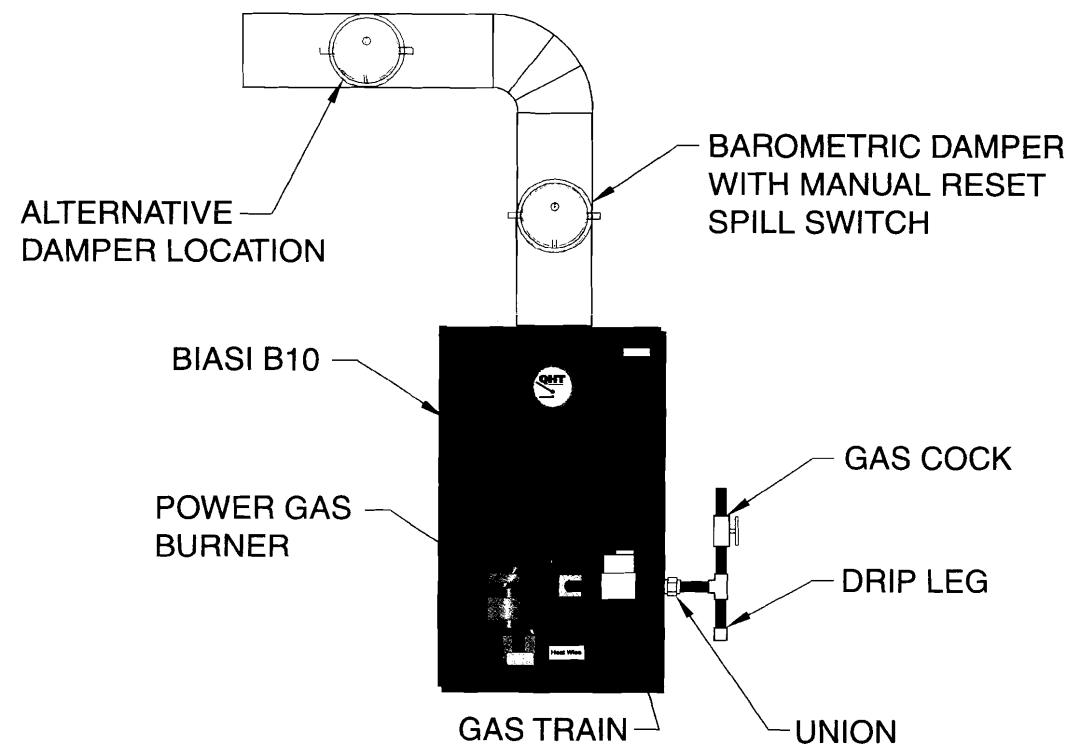
4. Installation of Boiler Trim Components

Trim Kit Components

- | | |
|--|----------------------------------|
| 1 - Honeywell L4006A aquastat | 1 - Combo pressure/temp gauge |
| 1 - 3/4" X 3" Nipple | 1 - 30 PSI pressure relief valve |
| 1 - 3/4" Boiler drain | 1 - 1/4" X 1/2" Bushing |
| 2 - 3/4" Plugs | 1 - 12" X 12" Cera-fiber pad |
| 1 - 3/4" 90° Elbow | 1 - Immersion well |
| 1 - Double acting barometric damper with manual reset spill switch (Gas systems only) | |

USE ONLY THE ETL LISTED BOILER SYSTEM COMPONENTS AND UL/AGA LISTED GAS BURNER COMPONENTS SUPPLIED WITH THE VEGA B10 BOILER SYSTEM.

Please refer to figures below for Barometric Damper location for either oil or gas and to the right for the proper location of the trim components. Install the Cera-fiber pad directly under the flame of the burner to keep the area under the flame warm to prevent flame-out.



* See detail on page 16

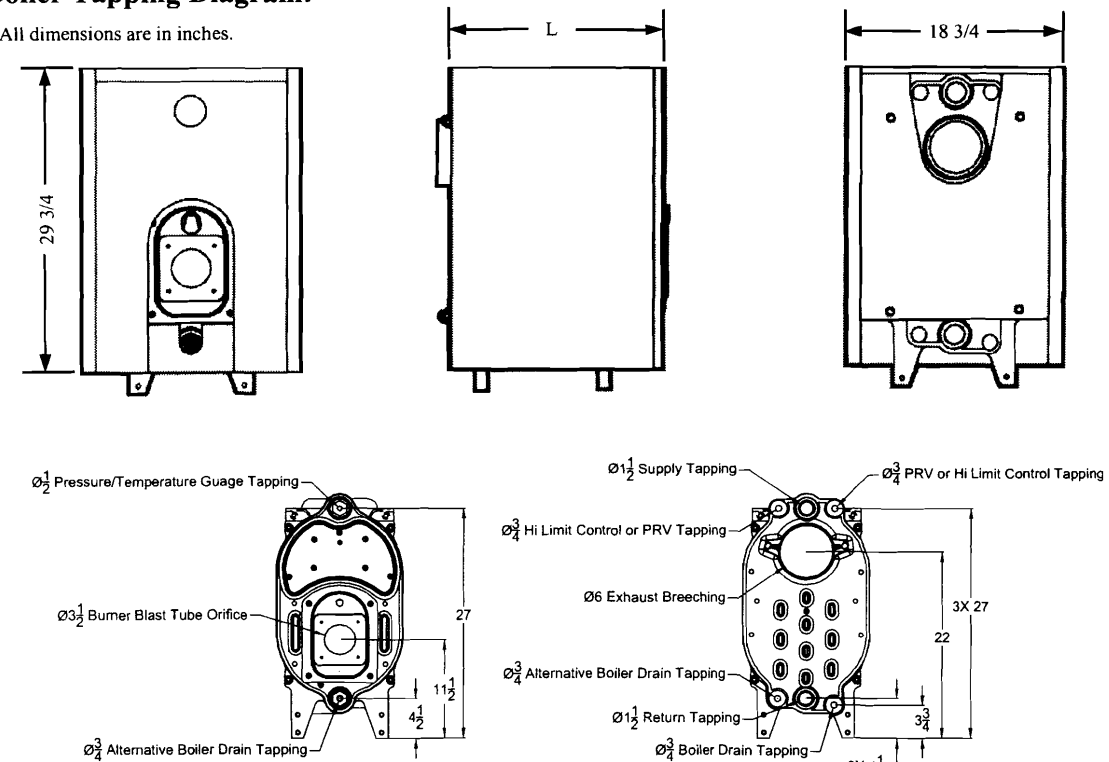
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4. Installation of Boiler Trim Components Cont.

1. Install 4006A aquastat in upper left or right rear tapping using 3/4" immersion well. All tapings and joints should be sealed with piping compound. The 4006A can be adjusted up to 220° F, and should be set to the desired temperature by the installer. The differential is also adjustable between 5 and 30 degrees. It should be set as close to 30 degrees as possible to prevent short cycling of the boiler.
2. Install Pressure Relief Valve in opposite upper rear tapping using 3" nipple and 3/4" elbow
3. Install 3/4" boiler drain in lower left or right rear tapping,
4. install 3/4" plug in opposite lower rear tapping, install other plug in lower front tapping of the boiler.
5. Install combination pressure/temperature gauge and extension in upper front tapping.
6. Place 12" X 12" cera-fiber blanket in the front of the boiler chamber under the blast tube opening.
7. Install burner mounting hardware in the four tapings on the front of the boiler door.
8. Install boiler door bolts on opposite side of door hinge.

Boiler Tapping Diagram:

All dimensions are in inches.



| Boiler Model | B-13 | B-14 | B-15 | B-16 | B-17 | B-18 | B-19 |
|----------------|------|------|------|------|------|------|------|
| Length (L) IN. | 15.5 | 19.5 | 23.5 | 28.5 | 33.5 | 38.5 | 42.5 |

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5. Piping the Boiler

All piping must conform to state and local codes. Page 7 shows the location and size of the boiler tapings. It is recommended to install unions and gate valves at the inlet and outlet of the boiler, so it may be readily isolated for service.

Install the provided pressure relief valve so the discharge is piped directly to a drain, if possible. If not, the discharge should be piped to the floor. In either case, the discharge pipe should be of the same diameter as the outlet of the relief valve, with no valves or obstructions to impede overflow from the boiler.

For **Canadian** installations it is required to install a low water cut off if the boiler is installed above the level of radiation. Even if the boiler is installed below the level of radiation it is strongly recommended that a low water cut off be installed.

Install manual and/or automatic air venting devices at the high points in the system to eliminate trapped air.

The weight of all piping should be supported by suitable hangars and floor stands, not by the boiler's purging/expansion station. Clearance for hot water pipes are 1 inch to combustibles.

It is recommended that the make-up water line have a backflow preventer and a pressure-reducing valve to reduce line pressure to 10 to 15 psi installed adjacent to the boiler.

In the case of a gas installation, the boiler should be installed such that the gas ignition system components are protected from water (dripping, spraying, etc.) during appliance operation and service (circulator replacement, condensate trap, control replacement, etc.).

If the boiler is to be used in conjunction with a refrigeration system, it must be piped in parallel with refrigeration system with the appropriate valves to ensure the chilled medium does not enter the boiler. Also if the boiler is connected to heating coils in an air handling system, where the coil could be exposed to cold air circulation. The boiler must have flow control valves or other automatic means to prevent gravity circulation of the boiler water during the cooling cycle.

NOTE: If the heating system is to be filled with antifreeze, use only formulations expressly made for hydronic heating systems (such as propylene glycol). **Do not use automotive types of antifreeze (ethylene glycol).** Use of antifreeze will alter system output and characteristics. Consult a factory representative for details or assistance.

SAFETY RELIEF VALVE

1. The safety relief valve should be piped into one of the two upper tapings in the rear of the boiler
2. The relief valve should be piped in with a doping compound using the supplied hardware in the trim kit
3. Pipe the discharge of the safety relief valve to prevent injury in the event of pressure relief. Pipe the discharge to a drain. Provide piping that is the same size as the safety relief valve outlet.

6. Intake Venting

1. Be certain adequate air is available for combustion and ventilation.

a.) Boiler located in unconfined space:

Installation in large areas, such as basements can usually be assumed to provide sufficient air.

b.) Boiler located in confined space:

If all air for combustion and ventilation is to come within the building: Two (2)

openings shall be provided with one (1) opening commencing within 12 inches of the top and one (1) opening commencing within 12 inches of the bottom of the enclosure. These openings shall not be located closer than 3 inches from either the top or bottom of the enclosure and shall be open to areas connecting freely with the outdoors. The area of each opening shall not be less than one square inch per 1000 BTU/HR. of total input rating of all appliances within the enclosure; with a minimum of 100 square inches for each opening.

If all the air for combustion and ventilation is to come from outside the building:

two (2) openings shall be provided with one opening commencing within 12 inches of the top and an opening commencing within 12 inches of the bottom of the enclosure. These openings shall not be located closer than 3 inches from either the top or bottom of the enclosure, and shall connect directly or by ducts with the outdoors. The area of each opening shall be equal to one square inch per 4000 BTU/HR of total input rating. If ducts are used to convey the air, vertical ducts require areas of one square inch per 4000 BTU/hr horizontal ducts require one square inch per 2000 BTU/hr. Ducts shall have the same cross sectional area as the full area of the openings to which they connect.

The upper opening is essential for maintenance of proper circulation of air with the boiler and reasonable ambient temperature in order to maintain proper control temperatures. When a duct is used for ventilation, check for louver free net area and correct for screen resistance to ensure that the ventilation area has been satisfied. **DO NOT INSTALL THE BOILER UNTIL PROPER COMBUSTION AIR HAS BEEN ARRANGED.**



CITY OF PORTLAND, MAINE
Department of Building Inspections

_____ 20 _____

Received from _____

Location of Work _____

Cost of Construction \$ _____

Permit Fee \$ _____

Building (I1) ____ Plumbing (I5) ____ Electrical (I2) ____ Site Plan (U2) ____

Other _____

CBL: _____

Check #: _____

Total Collected \$ _____

THIS IS NOT A PERMIT

No work is to be started until PERMIT CARD is actually posted upon the premises. Acceptance of fee is no guarantee that permit will be granted. PRESERVE THIS RECEIPT. In case permit cannot be granted the amount of the fee will be refunded upon return of the receipt less \$10.00 or 10% whichever is greater.

WHITE - Applicant's Copy
YELLOW - Office Copy
PINK - Permit Copy