

City of Portland, Maine - Building or Use Permit Application

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

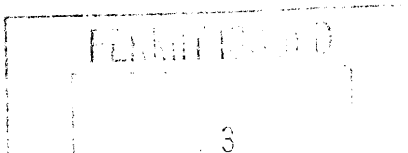
Permit No: 08-0956	Issue Date:	CBL: 058 B001001
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Location of Construction: 30 SALEM ST	Owner Name: GRAEF ROSANNE H	Owner Address: 30 SALEM ST	Phone:
Business Name:	Contractor Name: Kris Aaskov	Contractor Address: 304 Blackstrap Rd Falmouth	Phone 2077120843
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone:

Past Use: Duplex	Proposed Use: Duplex - new Triangle Tube PS110 Gas Boiler	Permit Fee: \$140.00	Cost of Work: \$11,358.00	CEO District: 2
		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <i>N/A</i>	INSPECTION: Use Group: <i>12.3</i> Type: <i>HVAC</i> <i>Capitol Gas Regs</i>	

Proposed Project Description: new Triangle Tube PS110 Gas Boiler	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied		
Signature:		Date:

Permit Taken By: ldobson	Date Applied For: 07/31/2008	Zoning Approval
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<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"/> Date:	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 Date:	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 Date:
			

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.

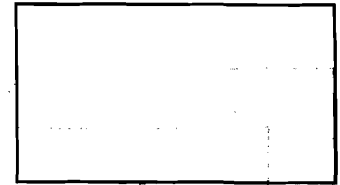
SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE



FILL IN AND SIGN WITH INK

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 30 SALEM ST/0583001001 Use of Building 2 FAM RES Date 7-22-08
 Name and address of owner of appliance ROSANNE H. GRAEF, 30A SALEM ST, PORTLAND, ME 04102
 Installer's name and address KRIS AASKOV PLUMBING & HEATING 304 BLACKSTRAP RD. S. PORTLAND Telephone (207) 799-8533

Location of appliance:

- Basement Floor
 Attic Roof

Type of Fuel:

- Gas Oil Solid

Appliance Name: TRIANGLE TUBE PS110 GAS BOILER

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 # 02482
 Solid Fuel # _____
 Oil # AP30013057
 Gas # PNT6074
 Other _____

Type of Chimney:

- Masonry Lined
 Factory built _____
 Metal
 Factory Built U.L. Listing # _____
 Direct Vent
 Type concentric UL# S636

Type of Fuel Tank

- Oil
 Gas

Size of Tank _____

Number of Tanks _____

Distance from Tank to Center of Flame _____ feet.

Cost of Work: \$ 11,358

Permit Fee: \$ _____

Approved

Approved with Conditions

Fire: _____

- See attached letter or requirement

Ele.: _____

Bldg.: _____

Inspector's Signature _____

Date Approved _____

Signature of Installer Kris Aaskov

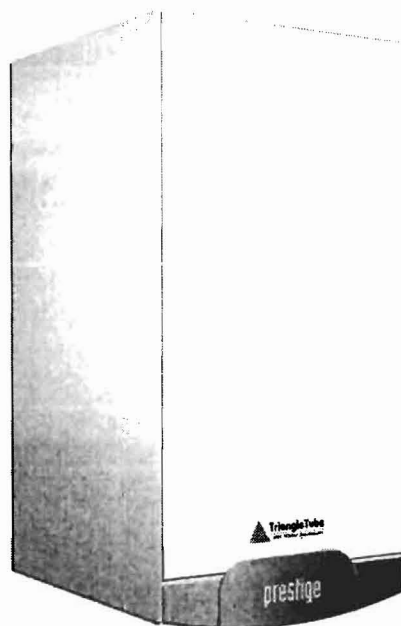


TriangleTube

Hot Water Specialists

prestige

Solo 110 Water Boiler



* INSTALLATION AND MAINTENANCE * M A N U A L

NOTICE

Warranty Registration Card must be filled out by the customer and mailed within thirty (30) days of installation in order to gain warranty coverage.

When receiving the PRESTIGE Solo unit, any claims for damage or shortage in shipment must be filed immediately against the transportation company by the consignee.

Leave all documentation received with appliance with owner for future reference.

WARNING

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

FOR YOUR SAFETY

- 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.

Recommended Clearances

The PRESTIGE Solo is approved for zero clearance to combustibles, excluding vent and boiler piping.

- Boiler Piping - 1/4 inch from combustible materials.
- Reference the appropriate vent supplement for clearance requirements.

BEST PRACTICES

To provide serviceability to the unit it is recommended that the following clearances be maintained:

Top boiler jacket - 24 inches [610 mm].

Front - 24 inches [610 mm].

Bottom boiler piping - 24 inches [610 mm].

Rear - 0 inches

Sides - 6 inches [153 mm].

WARNING

If the clearances listed above cannot be maintained, the space must be ventilated. See page 6 for ventilation requirements.

NOTICE

When maintaining zero clearance or less than recommended clearances, some product labeling may become hidden and unreadable

WARNING

When installing the PRESTIGE Solo in a confined space, sufficient air must be provided for proper combustion and venting and to allow, under normal operating conditions, proper air flow around the product to maintain ambient temperatures within safe limits to comply with the National Fuel Gas Code NFPA 54 - latest edition.

Residential Garage Installations

When installing the PRESTIGE Solo in a residential garage, the following special precautions per NFPA 54/ANSI Z223.1 must be taken:

- Mount the unit with a minimum 18 inches [458 mm] above the floor level of the garage. Ensure the burner and ignition devices / controls are no less than 18 inches [458 mm] above the floor level.
- Locate or protect the unit in a manner so it cannot be damaged by a moving vehicle.

Boiler Freeze Protection Feature

The boiler control has an freeze protection feature built in. This feature monitors the boiler temperature and responds as follows when no call for heat is present:

- 46°F Boiler circulator is ON
- 38°F Boiler circulator is ON and burner operates at low fire
- 50°F Burner OFF and boiler circulator operates for approximately 10 minutes

CAUTION

The boiler freeze protection feature is disabled during a hard lockout, however the CH circulator will operate.

CAUTION

The boiler freeze protection feature is designed to protect the boiler. The boiler should be installed in a primary/secondary piping arrangement if it is installed in an unheated space or exposed to water temperatures of 46°F or less. See Section IV for primary/secondary piping examples. See Section IX for antifreeze guidelines

SECTION II - Combustion Air and Venting

Combustion Air Contamination

WARNING

If the PRESTIGE Solo combustion air inlet is located in any area likely to cause or contain contamination, or if products, which would contaminate the air cannot be removed, the combustion air must be ripped and terminated to another location. Contaminated combustion air will damage the unit and its burner system, resulting in possible severe personal injury, death or substantial property damage.

WARNING

Do not operate a PRESTIGE Solo if its combustion air inlet is located near a laundry room or pool facility. These areas will always contain hazardous contaminants.

Pool and laundry products and common household and hobby products often contain fluorine or chlorine compounds. When these chemicals pass through the burner and vent system, they can form strong acids. These acids can create corrosion of the heat exchanger, burner components and vent system, causing serious damage and presenting a possible threat of flue gas spillage or water leakage into the surrounding area.

Please read the information listed below. If contaminating chemicals are located near the area of the combustion air inlet, the installer should pipe the combustion air inlet to an outside area free of these chemicals per SECTION V of this installation manual.

Potential contaminating products

- Spray cans containing chloro/fluorocarbons
- Permanent Wave Solutions
- Chlorinated wax
- Chlorine - based swimming pool chemicals / cleaners
- Calcium Chloride used for thawing ice
- Sodium Chloride used for water softening
- Refrigerant leaks
- Paint or varnish removers
- Hydrochloric acid / muriatic acid
- Cements and glues
- Antistatic fabric softeners used in clothe dryers
- Chlorine-type bleaches, detergents, and cleaning solvents found in household laundry rooms
- Adhesives used to fasten building products and other similar products

Areas likely to contain these products

- Dry cleaning / laundry areas and establishments
- Beauty salons
- Metal fabrication shops
- Swimming pools and health spas
- Refrigeration Repair shops
- Photo processing plants
- Auto body shops
- Plastic manufacturing plants
- Furniture refinishing areas and establishments
- New building construction
- Remodeling areas
- Garages with workshops

Ventilation and Combustion Air Requirements - Direct Vent

A Direct Vent appliance utilizes uncontaminated outdoor air (piped directly to the appliance) for combustion)

For Direct Vent installations, involving only the PRESTIGE Solo, in which the minimum service clearances are maintained as listed on page 4, no ventilation openings are required.

For Direct Vent, zero clearance installations involving only the PRESTIGE Solo, the space / enclosure must provide two openings for ventilation. The openings must be sized to provide 1 square inch of free area per 1,000 BTUH of boiler input. The openings shall be placed 12 inches from the top of the space and 12 inches from the floor of the space.

For installations in which the PRESTIGE Solo shares the space with air movers (exhaust fan, clothes dryers, fireplaces, etc.) and other combustion equipment (gas or oil) the space must be provided with adequate air openings to provide ventilation and combustion air to the equipment. To properly size the ventilation / combustion air openings, the installer must comply with the National Fuel Gas Code NFPA 54, ANSI Z223.1 for installations in the U.S or CSA B149.1 and B149.2 for installations in Canada.

WARNING

The space must be provided with ventilation / combustion air openings properly sized for all make-up air requirements (exhaust fans, clothes dryers, fireplaces, etc.) and the total input of all appliances located in the same space as the PRESTIGE Solo, excluding the input of a Direct Vent PRESTIGE Solo which uses combustion air directly from the outside, thus additional free area for the openings is not required. Failure to provide or properly size the openings could result in severe personal injury, death or substantial property damage.

Ventilation and Combustion Air Requirements - Category IV

A Category IV appliance utilizes uncontaminated indoor or outdoor air (surrounding the appliance) for combustion.

BEST PRACTICES

In order to reduce the potential risks associated with indoor contaminants (listed on page 5), flammable vapors and tight housing construction (little or no infiltration air), it is recommended to pipe uncontaminated combustion air directly from the outdoors to the appliance. This practice also promotes higher system efficiency by reducing heated indoor air from being exhausted from the house and replaced by cold infiltration air into the house.

For installations in which the PRESTIGE Solo shares the space with air movers (exhaust fan, clothes dryers, fireplaces, etc.) and other combustion equipment (gas or oil) the space must be provided with adequate air openings to provide ventilation and combustion air to the equipment. To properly size the ventilation / combustion air openings, the installer must comply with the National Fuel Gas Code NFPA 54, ANSI Z223.1 for installations in the U.S or CSA B149.1 and B149.2 for installations in Canada, as referenced in this section of the manual and titled Methods of Accessing Combustion Air into a Space.

WARNING

The space must be provided with ventilation / combustion air openings properly sized for all make-up air requirements (exhaust fans, clothes dryers, fireplaces, etc.) and the total input of all appliances including the PRESTIGE Solo when located in the same space. Failure to provide or properly size the openings could result in severe personal injury, death or substantial property damage.

Methods of Accessing Combustion Air Into A Space - Category IV

Indoor Combustion Air

NOTICE

The methods listed in this section for accessing Indoor Combustion Air assume that the infiltration rate is adequate and not less than .40 ACH. For infiltration rates less than .40 ACH, reference the NFPA 54 National Fuel Gas Code for additional guidance.

Opening Size and Location

Openings used to connect indoor spaces shall be sized and located in accordance with the following see Fig. 1:

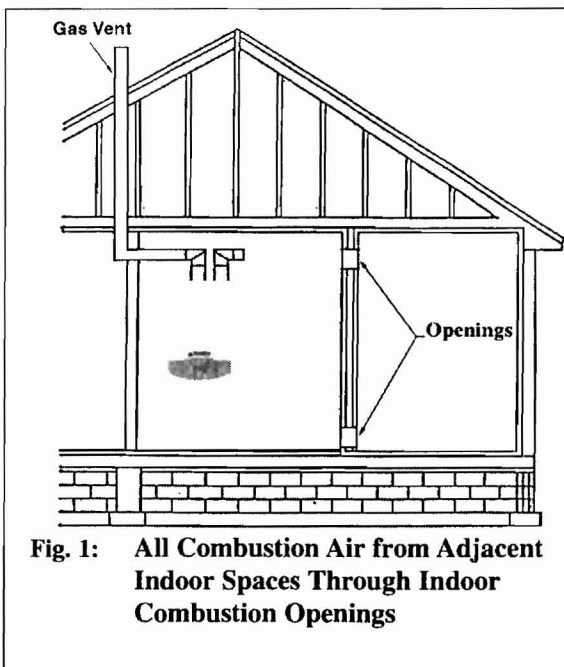


Fig. 1: All Combustion Air from Adjacent Indoor Spaces Through Indoor Combustion Openings

- Combining spaces on the same story. Each opening shall have a minimum free area of 1 sq. in./1000 Btu/hr of the total input rating of all gas utilization equipment in the space, but not less than 100 sq. inches. One opening shall commence within 12 inches of the top, and one opening shall commence within 12

inches of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches.

- Combining spaces in different stories. The volumes of spaces in different stories shall be considered as communicating spaces where such spaces are connected by one or more openings in doors or floors having a total minimum free area of 2 sq. in./1000 Btu/hr of total input rating of all gas utilization equipment.

Outdoor Combustion Air

BEST PRACTICES

Isolating the combustion appliance room from the rest of the building and bringing in uncontaminated outside air for combustion and ventilation is always preferred.

Opening Size and Location

The minimum dimension of air openings shall be not less than 3 inches

Openings used to supply combustion and ventilation air shall be sized and located in accordance with the following:

One Permanent Opening Method. See Fig. 2

One permanent opening, commencing within 12 in. of the top of the enclosure, shall be provided. The equipment shall have clearances of at least 1 inch from the sides and 6 in. from the front of the appliance. The opening shall directly communicate with the outdoors or shall communicate through a vertical or horizontal duct to the outdoors or spaces that freely communicate with the outdoors and shall have a minimum free area of the following:

- 1sq. in./3000 Btu/hr of the total input rating of all equipment located in the enclosures, and

Combustion Air and Venting



- Not less than the sum of the areas of all vent connectors in the space.

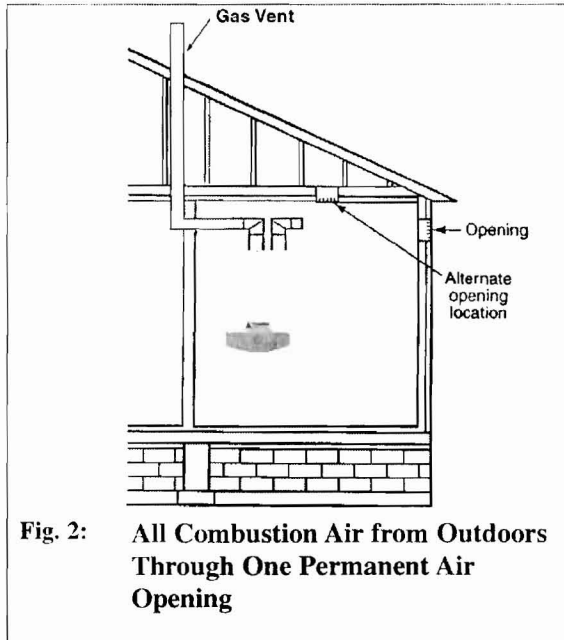


Fig. 2: All Combustion Air from Outdoors Through One Permanent Air Opening

Two Permanent Openings Method.

Two permanent openings, one commencing within 12 in. of the top and one commencing within 12 in. of the bottom of the enclosure, shall be provided. The openings shall communicate directly, or by ducts, with the outdoors or spaces that freely communicate with the outdoors, as follows:

- Where directly communicating with the outdoors or where communication to the outdoors is through vertical ducts, each opening shall have a minimum free area of 1 sq. in./4000 Btu/hr of total input rating of all equipment in the enclosure. See Fig.3.
- Where communicating with the outdoors is through horizontal ducts, each opening shall have a minimum free area of not less than 1 sq.in./2000 Btu/hr of total input rating of all equipment in the enclosure. See Fig. 4.

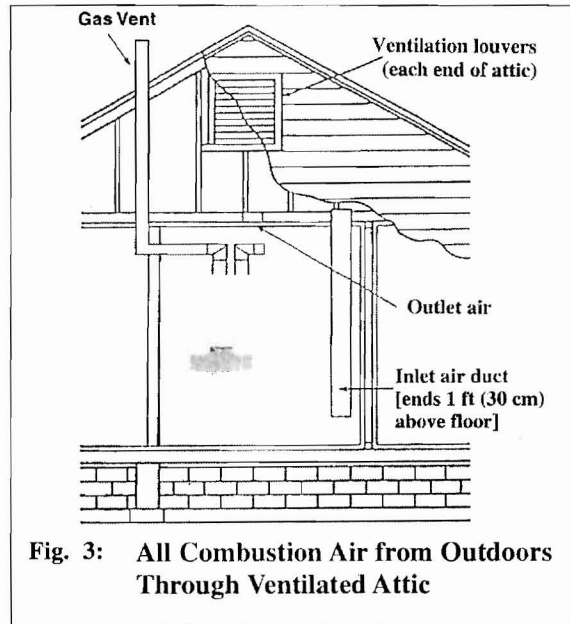


Fig. 3: All Combustion Air from Outdoors Through Ventilated Attic

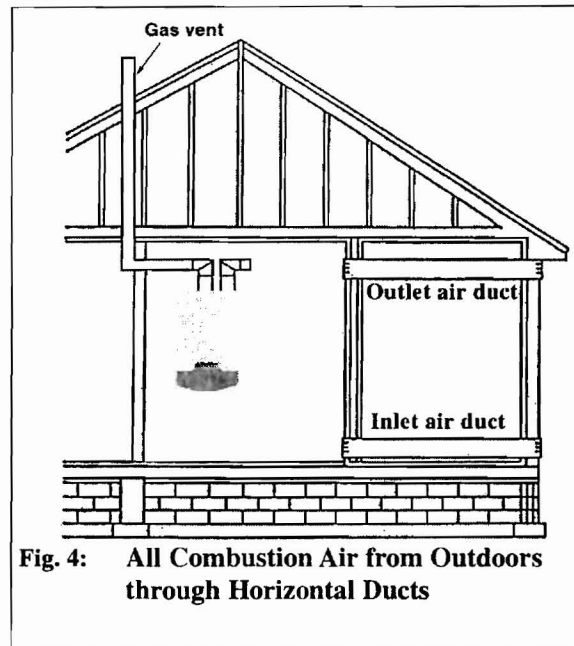


Fig. 4: All Combustion Air from Outdoors through Horizontal Ducts

Combination of Indoor and Outdoor Combustion Air

Indoor Openings: Where used, openings connecting the interior spaces shall comply with the Indoor Combustion Air section on page 7.

Combustion Air and Venting



Outdoor Opening(s) Location. Outdoor opening(s) shall be located in accordance with the Outdoor Combustion Air section.

Outdoor Opening(s) Size. Outdoor opening(s) shall be calculated in accordance with the following:

- The ratio of the interior spaces shall be the available volume of all communicating spaces divided by the required volume.
- The outdoor size reduction factor shall be 1 minus the ratio of interior spaces.
- The minimum size of outdoor opening(s) calculated in accordance with the above outdoor air section multiplied by the reduction factor. The minimum dimension of air openings shall not be less than 3 in.

DANGER

Do not install the PRESTIGE Solo into a common vent with other gas or oil appliances. This may cause flue gas spillage or appliance malfunction, resulting in possible severe personal injury, death or substantial property damage.

Combustion Air and Vent Piping

The PRESTIGE Solo requires a Category IV venting system, which is designed for pressurized venting and condensate.

The PRESTIGE Solo is certified per ANSI Z21.13 as a Category IV or Direct Vent (sealed combustion) appliance. A Category IV appliance utilizes uncontaminated indoor or outdoor air (surrounding the appliance) for combustion. A Direct Vent appliance utilizes uncontaminated outdoor air (piped directly to the appliance) for combustion.

BEST PRACTICES

In order to reduce the potential risks associated with indoor contaminants (listed on page 5), flammable vapors and tight housing construction (little or no infiltration air), it is recommended to pipe uncontaminated combustion air directly from the outdoors to the appliance. This practice also promotes higher system efficiency by reducing heated indoor air from being exhausted from the house and replaced by cold infiltration air into the house.

NOTICE

Install combustion air and vent pipe as detailed in the PRESTIGE Solo Vent Supplement included in the boiler installation envelope. Refer to optional vent kit instructions for additional vent installation instructions .

DANGER

Verify installed combustion air and vent piping are sealed gas tight and meet all provided instructions and applicable codes, failure to comply will result in severe personal injury or death.

Removal of an Existing Boiler from a Common Vent System

BEST PRACTICES

When an existing boiler is removed from a common venting system, the common venting system is likely to be too large for proper venting of the remaining appliances. At the time of removal of an existing boiler, the following steps shall be followed with each appliance remaining connected to the common venting system placed in operation, while the other appliances remaining connected to the common venting system are not in operation.

1. Seal any unused openings in the common venting system.
2. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
3. Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliance not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers.
4. Place in operation the appliance being inspected. Follow the lighting instructions. Adjust thermostat so appliance will operate continuously.

5. Test for spillage at the draft hood relied opening after 5 minutes of main burner operation. Use the flame of a match or candle, or smoke from a cigarette, cigar or pipe.
6. After it has been determined that each appliance remaining connected to the common venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers, and any other gas-burning appliance to their previous condition of use.
7. Any improper operation of the common venting system should be corrected so the installation conforms with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 and/or CAN/CGA B149, Installation codes. When resizing any portion of the common venting system, the common venting system should be resized to approach the minimum size as determined using the appropriate tables in Part II of the National Fuel Gas Code ANSI Z223.1/NFPA 54 and/or CAN/CGA B149, Installation codes.

DANGER

Do not install the PRESTIGE Solo into a common vent with other gas or oil appliances. This may cause flue gas spillage or appliance malfunction, resulting in possible severe personal injury, death or substantial property damage.

Commonwealth of Massachusetts Installations Only

For direct-vent appliances, mechanical-vent heating appliances or domestic hot water equipment, where the bottom of the vent terminal and the air intake is installed below four feet above grade the following requirements must be satisfied:

1. If there is not one already present, on each floor level where there are bedroom(s), a carbon monoxide detector and alarm shall be placed in the living area outside the bedroom(s). The carbon monoxide detector shall comply with NFPA 720 (2005 Edition).
2. A carbon monoxide detector shall be located in the room that houses the appliance or equipment and shall:
 - a. Be powered by the same electrical circuit as the appliance or equipment such that only one service switch services both the appliance and the carbon monoxide detector;
 - b. Have battery back-up power;
 - c. Meet ANSI/UL 2034 Standards and comply with NFPA 720 (2005 Edition); and
 - d. Have been approved and listed by the Nationally Recognized Testing Laboratory as recognized under 527 CMR.
3. A Product-approved vent terminal must be used, and if applicable, a Product-approved air intake must be used. Installation shall be in strict compliance with the manufacturer's instructions. A copy of the installation instructions shall remain with the appliance or equipment at the completion of the installation.

4. A metal or plastic identification plate shall be mounted at the exterior of the building, four feet directly above the location of vent terminal. The plate shall be of sufficient size to be easily read from a distance of eight feet away, and read "Gas Vent Directly Below".

NOTICE

Installer must provide tag identification plate and ensure the lettering meets code requirements.

For direct-vent appliances, mechanical-vent heating appliances or domestic hot water equipment, where the bottom of the vent terminal and the air intake are installed above four feet above grade the following requirements must be satisfied:

1. If there is not one already present, on each floor level where there are bedroom(s), a carbon monoxide detector and alarm shall be placed in the living area outside the bedroom(s). The carbon monoxide detector shall comply with NFPA 720 (2005 Edition).
2. A carbon monoxide detector shall:
 - a. Be located in the room that houses the appliances or equipment;
 - b. Be either hard wired or battery powered or both; and
 - c. Shall comply with NFPA 720 (2005 Edition)
3. A Product-approved vent terminal must be used, and if applicable, a Product-approved air intake must be used. Installation shall be in strict compliance with the manufacturer's instructions. A copy of the installation instructions shall remain with the appliance or equipment at the completion of the installation.

City of Portland, Maine - Building or Use Permit

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

Permit No: 08-0956	Date Applied For: 07/31/2008	CBL: 058 B001001
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Location of Construction: 30 SALEM ST	Owner Name: GRAEF ROSANNE H	Owner Address: 30 SALEM ST	Phone:
Business Name:	Contractor Name: Kris Aaskov	Contractor Address: 304 Blackstrap Rd Falmouth	Phone: (207) 712-0843
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	

Proposed Use: Duplex - new Triangle Tube PS110 Gas Boiler	Proposed Project Description: new Triangle Tube PS110 Gas Boiler
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Dept: Zoning **Status:** Not Applicable **Reviewer:** Tammy Munson **Approval Date:** 08/13/2008
Note: **Ok to Issue:**

Dept: Building **Status:** Approved with Conditions **Reviewer:** Tammy Munson **Approval Date:** 08/13/2008
Note: **Ok to Issue:**

- 1) All penetrations through rated assemblies must be protected by an approved firestop system installed in accordance with ASTM 814 or UL 1479, per IBC 2003 Section 712.
- 2) The installation must comply with the State of Maine Gas Regulations.