DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND
BUILDING PERMIT

This is to certify that
HIGHT JEFFREY /SPB Plumbing & Heating

Located at
15 ALLISON AVE

PERMIT ID: 2013-00412

CBL: 353 A015001

has permission to **Install gas Triangle Tube heating unit in the basement.**
provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise clsoed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be procured prior to occupancy.

3/1/13

Fire Prevention Officer | **Code Enforcement Officer / Plan Reviewer**

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
THERE IS A PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES
Please call 874-8703 (ONLY)
or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

REQUIRED INSPECTIONS:

Close-in Plumbing/Framing
Electrical - Residential
Final Inspection

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

City of Portland, Maine - Building or Use Permit

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

Permit No:	Date Applied For:	CBL:
2013-00412	03/01/2013	353 A015001

Location of Construction:	Owner Name:	Owner Address:	Phone:
15 ALLISON AVE	HIGHT JEFFREY	15 ALLISON AVE	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	SPB Plumbing & Heating	P O Box 21 Saco	(207) 252-0698
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		HVAC	

Proposed Use:	Proposed Project Description:
Single Family	Install gas Triangle Tube heating unit in the basement.

Dept: Zoning **Status:** Approved **Reviewer:** Ann Machado **Approval Date:** 03/01/2013

Note: **Ok to Issue:** ☑

Dept: Building **Status:** Approved w/Conditions **Reviewer:** Jon Rioux **Approval Date:** 03/01/2013

Note: **Ok to Issue:** ☑

1) The installation must comply with UL, the Manufacturers' Listing, MUBEC (IRC, 2009), and State of Maine Gas Regulations.

Separate permits are required for any electrical: plumbing, sprinkler, fire alarm, HVAC systems, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.

Maintain proper setback(s) from property lines/buildings and proper clearances from vertical openings when direct venting

A Carbon Monoxide (CO) alarm shall be installed in each area within or giving access to bedrooms. That detection must be powered by the electrical service (plug-in or hardwired) in the building and battery.

M1804.2.5 Direct vent terminations. Vent terminals for direct-vent appliances shall be installed in accordance with the manufacturer's installation instructions.

City of Portland, Maine - Building or Use Permit Application

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

Permit No:	Issue Date:	CBL:
2013-00412		353 A015001

Location of Construction:	Owner Name:	Owner Address:	Phone:
15 ALLISON AVE	HIGHT JEFFREY	15 ALLISON AVE PORTLAND , ME 04103	
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	SPB Plumbing & Heating	P O Box 21 Saco ME 04072	(207) 284-4800
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		HVAC	R2 R3
Past Use:	**Proposed Use:**	**Permit Fee:** / **Cost of Work:**	**CEO District:**
Single Family	Single Family	$90.00 / $7,000.00	8

FIRE DEPT: ☐ Approved ☐ Denied ☐ N/A

Signature:

INSPECTION:
Use Group: Type: HVAC
ME Gas Regs

Signature:

Proposed Project Description:
Install gas Triangle Tube heating unit in the basement. (2012-11-5359)

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
gg	03/01/2013

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. 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..

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☑ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
OK Date: 3/1/13 ABM	Date:	Date: ABM

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

#4637

o the INSPECTOR OF BUILDINGS, PORTLAND, ME.

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

ocation / CBL 353 A 015 Use of Building _____ Date 3/1/13

lame and address of owner of appliance CONSTRUCTION SYSTEMS
25 ALLISON AVE LOT 33

nstaller's name and address STEVE BOISSONNEAULT SPB PLUMBING
PO BOX 21 SACO ME 04072 Telephone 207 2855206 98

ocation of appliance:
- ☒ Basement
- ☐ Floor
- ☐ Attic
- ☐ Roof

ype of Fuel:
- ☒ Gas
- ☐ Oil
- ☐ Solid

ppliance Name: TRIANGLE TUBE COMBI CHALLENGER
.L. Approved ☒ Yes ☐ No

Will appliance be installed in accordance with the manufacture's nstallation instructions? ☒ Yes ☐ No

F NO Explain: _____

he Type of License of Installer:
- ☐ Master Plumber # 8315
- ☐ Solid Fuel # _____
- ☐ Oil # _____
- ☐ Gas # 251
- ☐ Other _____

Type of Chimney:
- ☐ Masonry Lined
  Factory built _____
- ☐ Metal
  Factory Built U.L. Listing # _____
- ☒ Direct Vent
  Type PVC UL# _____

Type of Fuel Tank
- ☐ Oil
- ☒ Gas

RECEIVED
MAR 0 1 2013
Dept. of Building Inspections
City of Portland Maine

Size of Tank _____

Number of Tanks _____

Distance from Tank to Center of Flame _____ **feet.**

Cost of Work: $ 7000.00

Permit Fee: $ _____

Approved

Fire: _____

Ele.: _____

Bldg.: _____

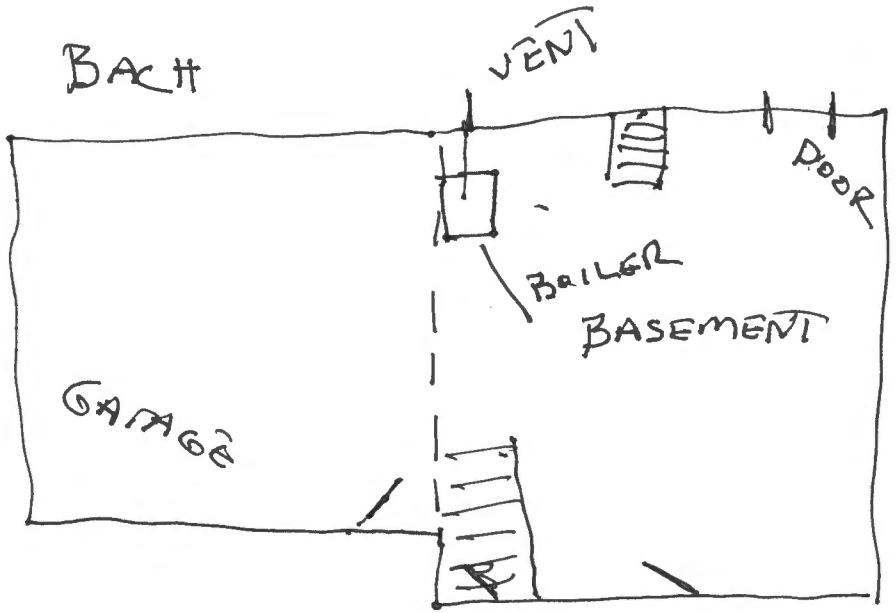
Approved with Conditions

☐ See attached letter or requirement

_____ Inspector's Signature _____ Date Approved

ignature of Installer _____

White - Inspection Yellow - File Pink - Applicant's Gold - Assessor's Copy



25 ALLISON AVE

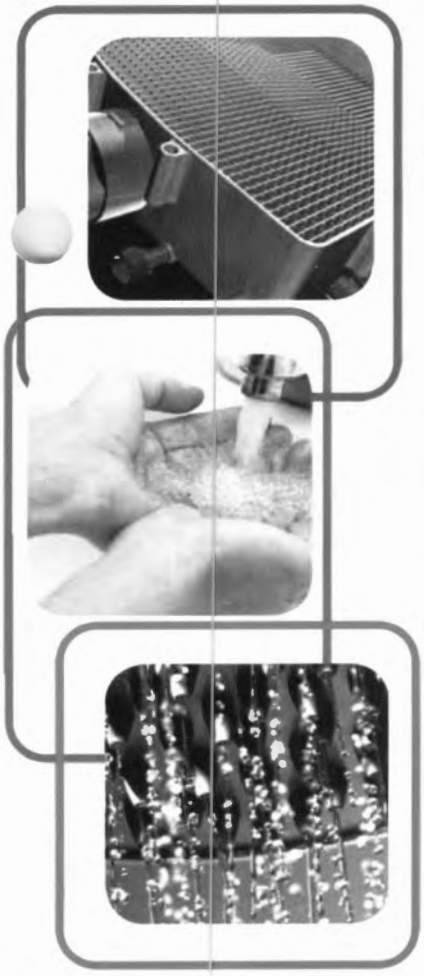
TriangleTube

Challenger COMBI

Combination High Efficiency Boiler and Domestic Water Heater

HEAT .... and Hot Water

.... TOGETHER in one Appliance



Glycol Compatible

Features

- » High Efficiency - 95% AFUE
- » Inputs to 124,000 Btu/Hr
- » Whisper Quiet
- » On demand plentiful Hot Water
- » Eliminates need for DHW Tank
- » Reliable - 10 year Heat Exchanger Warranty
- » Low NOx
- » DHW Low Lead Content Certified

CONDENSES IN BOTH SPACE HEATING AND DOMESTIC HOT WATER MODES

n a compact, reliable package

Integrated hot water...

In this combination boiler, hot water is supplied directly from within the unit, at high efficiencies with near zero standby losses. The Challenger can maintain a set block temperature for rapid hot water delivery. The unique 'self learning' ECO-mode provides rapid hot water response when needed and zero standby losses during periods of no demand.

... because simpler is better

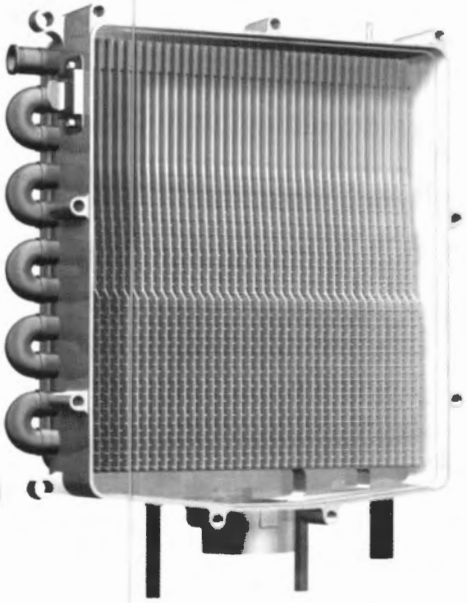
By focusing on the important functions, heat and hot water, we have minimized complexity and maximized functionality. The result is a boiler that is easier to maintain and more reliable. So reliable that we back each Challenger with an 10 year non-prorated heat exchanger warranty.

Warranty
Non-prorated
Limited 10 Year
Heat Exchanger

The heat exchanger forms the heart of every high efficiency boiler

Unique Integrated Copper Waterways.

- > Copper waterways surrounded by aluminum heat exchanger
- > Glycol compatible
- > Long life from reliable copper piping
- > Even heat transfer eliminates hot spots and lowers thermal stress



Dual Boiler and Domestic Hot Water Waterways

The Challenger heats Domestic Hot Water directly in the heat exchanger providing:

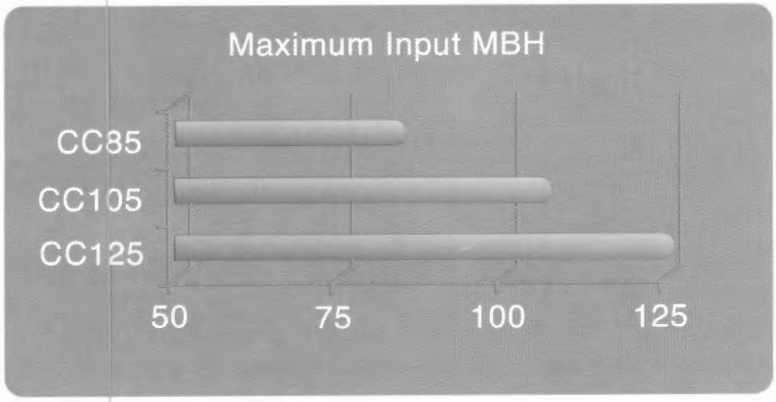
1) Higher efficiency – The cold domestic water entering the heat exchanger maximizes the condensing heat transfer for maximum efficiency.
2) Compact Design – All of the heating is done in one heat exchanger – not two.
3) Higher Reliability – Integrating the DHW into the heat exchanger reduces components and maintenance. The unique design eliminates the need for a separate DHW heat exchanger, pump, and three-way valve.

The Challenger combines efficiency and simplicity

Challenger

Big enough to meet your needs...

Properly matching your boiler to your needs is fundamental to achieving optimum performance. With three sizes from 84 to 124 MBH, there is a Challenger to fit your needs. Your installer can properly measure your heating and hot water requirements to ensure the perfect fit.



...but small enough to fit your closet

The Challenger was designed to fit into the smallest of spaces. Its on-demand domestic hot water function eliminates the space and costs associated with hot water storage tanks. Taking up less than 3ft^3, the Challenger can fit in a small storage area or utility closet. But with an attractive enclosure and whisper quiet operation, why hide it at all?

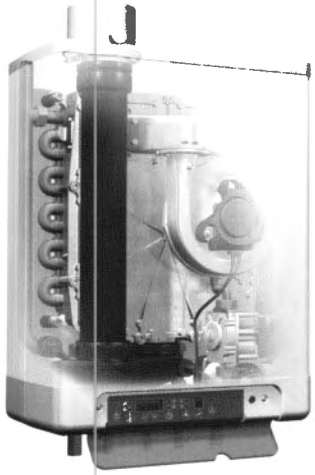
The intelligent boiler...

The Challenger uses advanced logic control for adjustable modulation, which automatically regulates the capacity of the boiler to your requirements. The outdoor reset function monitors outside conditions and adjusts the boiler system water temperature for maximum comfort and efficiency. The Challenger works with both regular 'on/off' and advanced programmable thermostats.

... with straight "A"s in efficiency

The condensing heat exchanger in the Challenger converts the latent heat in flue gas into usable energy. This results in an AFUE of 95%. The fuel is burned clean enough to meet California's SCAQMD requirements for low NOx emissions.

Technical Specifications



Model	CC 85	CC 105	CC 125
Input Modulation (MBH)	23 to 84	29 to 106	33 to124
AFUE	95%	95%	95%
DOE heating Capacity (MBH)	75	94	110
Net Boiler IBR Rating (MBH)	65	82	96
Fuel	NG and LP	NG and LP	NG and LP
DHW flow rate at 70°F delta T (GPM)	2.0	2.5	3.0
DHW minimum flow rate (GPM)	0.5	0.5	0.5
DHW maximum temperature (F [C])	149 (65)	149 (65)	149 (65)
Maximum CH output temperature (F [C])	194 (90)	194 (90)	194 (90)
Cabinet Height (Inch)	23 1/4	25 1/2	28
Cabinet Width (Inch)	17 3/4	17 3/4	17 3/4
Cabinet Depth (Inch)	9 1/2	9 1/2	9 1/2
Weight (Lbs)	66	73	80

- The Challenger is certified both as a boiler and a water heater.
- Boiler Certified to ANSI Z21.13 / CSA 4.9
- Water Heater Certified to ANSI Z21.10.3 / CSA 4.3
- Water Heater Certified Low Lead Content Per NSF/ANSI 372.
- 5 and 10 year parts and labor plans available
- Convenient spare parts kit available

Standard Features

Heat Exchanger

- Separate boiler and DHW copper waterways cast directly in the heat exchanger
- Copper boiler and DHW waterways
- Cast aluminum heat exchanger with vertical flueways
- 10 year (non-prorated) limited warranty

Burner

- Stainless steel burner with woven steel fiber mesh
- Direct spark ignition
- Variable speed blower assembly
- Negative pressure regulated gas valve
- Propane conversion orifice

Sensors

- Boiler supply temperature
- Boiler return temperature
- DHW outlet water temperature
- DHW inlet flow switch
- Boiler outlet pressure
- Flue temperature

Intake and Venting

- 3" parallel venting (standard)
- 80/125 concentric venting (optional)
- PVC, CPVC, PP, SS material options

Control

- Digital control displays in US customary or Metric units
- Advanced modulating temperature control
- Outdoor reset
- Boiler low water protection
- Freeze protection
- High limit protection
- 3 DHW modes (Self learning ECO, standby, and on-demand)
- DHW priority
- Thermostatic DHW mixing valve

Electrical Connections

- 120V/60hz Power supply
- Primary pump
- Thermostat
- Outdoor sensor

Piping Connections

- EZ Install piping mounting bracket
- 3/4" NPT DHW inlet and outlet
- 1" NPT boiler inlet and outlet
- 3/4"condensate drain
- Simple primary/secondary connections with optional Timesaver manifold

2009-63 Challenger Lit. 080111

TriangleTube
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An ACV Company