

**City of Portland, Maine - Building or Use Permit Application**

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

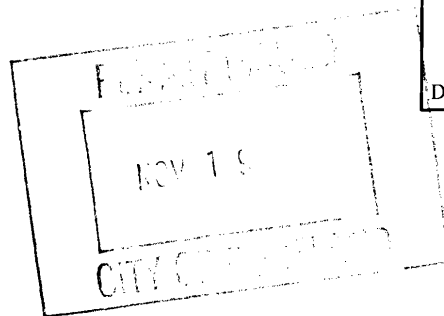
|                       |             |                     |
|-----------------------|-------------|---------------------|
| Permit No:<br>07-1415 | Issue Date: | CBL:<br>065 A018001 |
|-----------------------|-------------|---------------------|

|  |   |  |                      |
|--|---|--|----------------------|
| Location of Construction:<br>13 HEMLOCK ST | Owner Name:<br>PREDA MARILENA LILI            | Owner Address:<br>13 HEMLOCK ST                    | Phone:               |
| Business Name:                             | Contractor Name:<br>Miners Heating / Al Miner | Contractor Address:<br>275 West Road West Gardiner | Phone:<br>2072157404 |
| Lessee/Buyer's Name                        | Phone:  | Permit Type:<br>HVAC                               | Zone:<br>R-6         |

|   |  |   |  |                    |
|---|--|---|--|--------------------|
| Past Use:<br>2 unit residential   | Proposed Use:<br>2 unit residential - install a Dunkirk<br>Plymouth Xtreme Natural Gas<br>Boiler in Basement<br><br><i>legal use: 2 d.u. (assessors microfiche) pre 1957</i> | Permit Fee:<br>\$120.00   | Cost of Work:<br>\$9,650.00  | CEO District:<br>3 |
| Proposed Project Description:<br>install a Dunkirk Plymouth Xtreme Natural Gas Boiler in Basement |  | FIRE DEPT:<br><input type="checkbox"/> Approved<br><input type="checkbox"/> Denied  | INSPECTION:<br>Use Group: R3 Type: HVAC<br>ME Gas Rules<br>Signature: JMB 11/19/07 |                    |
|   |  | PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)<br>Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied<br>Signature: Date: |  |                    |

|                             |                                 |                        |
|-----------------------------|---------------------------------|------------------------|
| Permit Taken By:<br>ldobson | Date Applied For:<br>11/19/2007 | <b>Zoning Approval</b> |
|-----------------------------|---------------------------------|------------------------|

|   |   |   |  |
|---|---|---|--|
| <p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>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..</p> | <p><b>Special Zone or Reviews</b></p> <input type="checkbox"/> Shoreland<br><input type="checkbox"/> Wetland<br><input type="checkbox"/> Flood Zone<br><input type="checkbox"/> Subdivision<br><input type="checkbox"/> Site Plan<br><br>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/><br><i>OK</i><br>Date: 11/19/07 ABM | <p><b>Zoning Appeal</b></p> <input type="checkbox"/> Variance<br><input type="checkbox"/> Miscellaneous<br><input type="checkbox"/> Conditional Use<br><input type="checkbox"/> Interpretation<br><input type="checkbox"/> Approved<br><input type="checkbox"/> Denied<br><br>Date: | <p><b>Historic Preservation</b></p> <input checked="" type="checkbox"/> Not in District or Landmark<br><input type="checkbox"/> Does Not Require Review<br><input type="checkbox"/> Requires Review<br><input type="checkbox"/> Approved<br><input type="checkbox"/> Approved w/Conditions<br><input type="checkbox"/> Denied<br><i>ABM</i><br>Date: |
|---|---|---|--|



**CERTIFICATION**

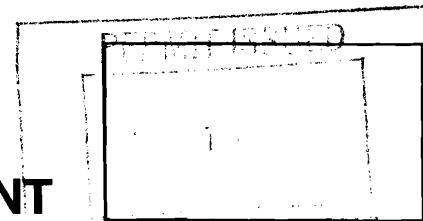
I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, 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 13 Hemlock St 65A18 Use of Building Home / Apt Date 11-19-07  
 Name and address of owner of appliance Marilena Prada  
13 Hemlock St  
 Installer's name and address Algernon F Miner 275 West Rd 215-7404  
W. Gardiner ME 04340 Telephone 207-724-3272

**Location of appliance:**

- Basement  Floor  
 Attic  Roof

**Type of Fuel:**

- Gas  Oil  Solid

Appliance Name: DunkirkU.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 # \_\_\_\_\_  
 Solid Fuel # \_\_\_\_\_  
 Oil # \_\_\_\_\_  
 Gas # PNT 3122  
 Other \_\_\_\_\_

**Type of Chimney:**

- Masonry Lined existing  
 Factory built \_\_\_\_\_

- Metal

Factory Built U.L. Listing # \_\_\_\_\_  
per Al Miner 11/29/07

- Direct Vent

Type \_\_\_\_\_ UL# \_\_\_\_\_

**Type of Fuel Tank**

- Oil  
 Gas Natural

Size of Tank N/A

Number of Tanks \_\_\_\_\_

Distance from Tank to Center of Flame \_\_\_\_\_ feet.

Cost of Work: \$ 49650Permit Fee: \$ 120**Approved**

Fire: \_\_\_\_\_  
 Ele.: \_\_\_\_\_  
 Bldg.: \_\_\_\_\_

**Approved with Conditions**

- See attached letter or requirement

Inspector's Signature \_\_\_\_\_

Date Approved \_\_\_\_\_

Signature of Installer Algernon F Miner

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| <b>Permit No:</b><br>07-1415 | <b>Date Applied For:</b><br>11/19/2007 | <b>CBL:</b><br>065 A018001 |
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|   |  |   |                                |
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| <b>Location of Construction:</b><br>13 HEMLOCK ST | <b>Owner Name:</b><br>PREDA MARILENA LILI            | <b>Owner Address:</b><br>13 HEMLOCK ST                    | <b>Phone:</b>                  |
| <b>Business Name:</b>                             | <b>Contractor Name:</b><br>Miners Heating / Al Miner | <b>Contractor Address:</b><br>275 West Road West Gardiner | <b>Phone</b><br>(207) 215-7404 |
| <b>Lessee/Buyer's Name</b>                        | <b>Phone:</b>  | <b>Permit Type:</b><br>HVAC                               |                                |

|   |  |
|---|--|
| <b>Proposed Use:</b><br>2 unit residential - install a Dunkirk Plymouth Xtreme Natural Gas Boiler in Basement | <b>Proposed Project Description:</b><br>install a Dunkirk Plymouth Xtreme Natural Gas Boiler in Basement |
|---|--|

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Dept:</b> Zoning  | <b>Status:</b> Approved                 | <b>Reviewer:</b> Ann Machado    | <b>Approval Date:</b> 11/19/2007                        |
| <b>Note:</b>   |   |                                 | <b>Ok to Issue:</b> <input checked="" type="checkbox"/> |
| <b>Dept:</b> Building  | <b>Status:</b> Approved with Conditions | <b>Reviewer:</b> Jeanine Bourke | <b>Approval Date:</b> 11/19/2007                        |
| <b>Note:</b>   |   |                                 | <b>Ok to Issue:</b> <input checked="" type="checkbox"/> |
| 1) The installation must comply with the State of Maine Gas Regulations. |   |                                 |   |

|   |
|---|
| <b>Comments:</b><br>11/19/2007-amachado: Gave permit to Lannie. |
|---|

## INSTALLATION INSTRUCTIONS

These instructions must be affixed on or adjacent to the boiler.



# PLYMOUTH XTREME

## GAS-FIRED HOT WATER BOILERS

These Gas-Fired water Boilers are low pressure, sectional cast iron boilers Design Certified by C.S.A. (Canadian Standards Association) for use with Natural and Propane Gases. They are constructed and hydrostatically tested for a maximum working pressure of 50 psi and hydrostatically tested for a maximum working pressure of 50 psi (pounds per square inch) in accordance with A.S.M.E. (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code section IV Standards for cast iron Heating boilers.

**Warning:** Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or addition information consult a qualified installer, service agency or the gas supplier.



## DUNKIRK BOILERS

DUNKIRK, NEW YORK 14048 - AREA CODE 716 366-5500

MEMBER: The Hydronics Institute

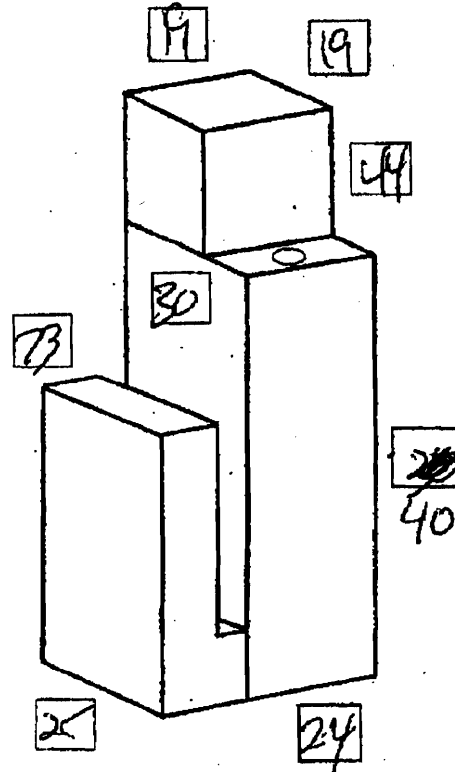


# HVAC MEASURE WORKSHEET

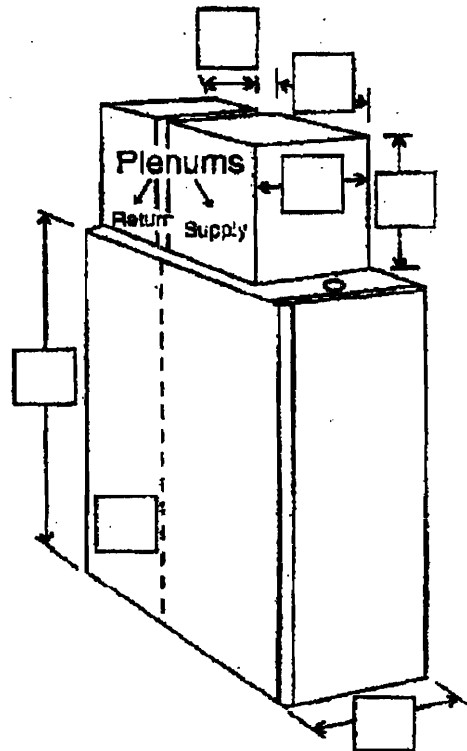
CUSTOMER \_\_\_\_\_

LEAD # \_\_\_\_\_

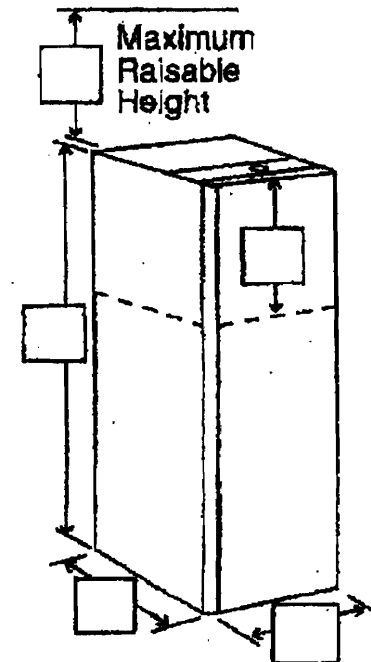
## SPACE SAVER



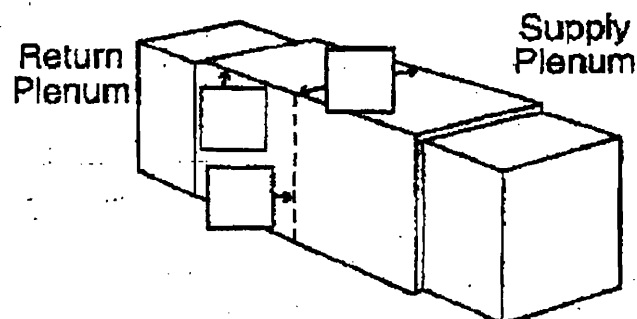
## LOW-BOY



## COUNTERFLOW



## HORIZONTAL



## Load Calculation

|           | L  | W  | H | Total |
|-----------|----|----|---|-------|
| Basement  | 24 | 38 | 7 | 6384  |
| 1st Floor | 24 | 38 | 7 | 6384  |
| 2nd Floor | 24 | 38 | 7 | 6384  |
| 3rd Floor |    |    |   |       |
|           |    |    |   |       |
|           |    |    |   |       |
|           |    |    |   |       |
|           |    |    |   |       |

TOTAL LOAD 57486 C.F

HEATING

COOLING

|                  |  |  |
|------------------|--|--|
| Existing Brand   |  |  |
| Existing BTU     |  |  |
| Breaker Type     |  |  |
| Breaker Capacity |  |  |

Multiplier  
BTU's Calculated  
Unit \_\_\_\_\_

|         |         |
|---------|---------|
| HEATING | COOLING |
| 6       | 2       |
|         |         |
|         |         |

## COMMENTS

Boiler 1st Floor + 1/2 Basement 57486 BTU  
 Furnace 2nd Floor + 1/2 Basement 57486 BTU

Table 11—Maximum Allowable Pipe Length (ft)

| ALTITUDE (FT) | UNIT SIZE (BTUH)           | DIRECT VENT (2-PIPE) ONLY  |                 | NON-DIRECT VENT (1-PIPE) ONLY | NUMBER OF 90° ELBOWS |    |    |    |    |    |    |
|---------------|----------------------------|----------------------------|-----------------|-------------------------------|----------------------|----|----|----|----|----|----|
|               |                            | TERMINATION TYPE           | PIPE DIA (IN.)* | PIPE DIA (IN.)*               | 1                    | 2  | 3  | 4  | 5  | 6  |    |
| 0 to 2000     | 40,000                     | 2 Pipe or 2-in Concentric  | 1               | 1                             | 5                    | NA | NA | NA | NA | NA | NA |
|               |                            |                            | 1-1/2           | 1-1/2                         | 70                   | 70 | 65 | 60 | 60 | 55 |    |
|               |                            |                            | 2               | 2                             | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 60,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 20                   | 15 | 10 | 5  | NA | NA |    |
|               |                            |                            | 2               | 2                             | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 80,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 10                   | NA | NA | NA | NA | NA |    |
|               |                            |                            | 2               | 2                             | 55                   | 50 | 35 | 30 | 30 | 20 |    |
|               |                            |                            | 2-1/2           | 2-1/2                         | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 100,000                    | 2 Pipe or 3-in Concentric  | 2               | 2                             | 5                    | NA | NA | NA | NA | NA |    |
|               |                            |                            | 2-1/2           | 2-1/2                         | 40                   | 30 | 20 | 20 | 10 | NA |    |
|               |                            |                            | 3               | 3                             | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 120,000                    | 2 Pipe or 3-in. Concentric | 2-1/2 one disk  | 2-1/2                         | 10                   | NA | NA | NA | NA | NA |    |
|               |                            |                            | 3†              | NA                            | 45                   | 40 | 35 | 30 | 25 | 20 |    |
|               |                            |                            | 3† no disk      | 3†                            | 70                   | 70 | 70 | 70 | 70 | 70 |    |
| 140,000       | 2 Pipe or 3-in. Concentric | 2-1/2 one disk             | NA              | 5                             | NA                   | NA | NA | NA | NA |    |    |
|               |                            | 3† one disk                | NA              | 40                            | 35                   | 30 | 25 | 20 | 15 |    |    |
|               |                            | 3† no disk                 | NA              | 60                            | 56                   | 52 | 48 | 44 | 40 |    |    |
|               |                            | 4† no disk                 | NA              | 70                            | 70                   | 70 | 70 | 70 | 70 |    |    |
| 2001 to 3000  | 40,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 67                   | 62 | 57 | 52 | 52 | 47 |    |
|               |                            |                            | 2               | 2                             | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 60,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 17                   | 12 | 7  | NA | NA | NA |    |
|               |                            |                            | 2               | 2                             | 70                   | 67 | 66 | 61 | 61 | 61 |    |
|               | 80,000                     | 2 Pipe or 2-in Concentric  | 2               | 2                             | 49                   | 44 | 30 | 25 | 25 | 15 |    |
|               |                            |                            | 2-1/2           | 2-1/2                         | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 100,000                    | 2 Pipe or 3-in Concentric  | 2-1/2           | 2-1/2                         | 35                   | 26 | 16 | 16 | 6  | NA |    |
|               |                            |                            | 3               | 3                             | 70                   | 70 | 70 | 70 | 66 | 61 |    |
|               | 120,000                    | 2 Pipe or 3-in. Concentric | 3               | NA                            | 14                   | 9  | NA | NA | NA | NA |    |
|               |                            |                            | NA              | 3†                            | 63                   | 62 | 62 | 61 | 61 | 61 |    |
|               |                            |                            | 3† no disk      | NA                            | 70                   | 70 | 63 | 56 | 50 | 43 |    |
|               |                            |                            | 4† no disk      | 4† no disk                    | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 140,000                    | 2 Pipe or 3-in. Concentric | 3† one disk     | NA                            | 20                   | 15 | 10 | 5  | NA | NA |    |
|               |                            |                            | 3† no disk      | NA                            | 39                   | 35 | 31 | 27 | 23 | 19 |    |
| 4† no disk    |                            |                            | NA              | 70                            | 70                   | 70 | 70 | 70 | 70 |    |    |
| 3001 to 4000  | 40,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 64                   | 59 | 54 | 49 | 48 | 43 |    |
|               |                            |                            | 2               | 2                             | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 60,000                     | 2 Pipe or 2-in Concentric  | 1-1/2           | 1-1/2                         | 16                   | 11 | 6  | NA | NA | NA |    |
|               |                            |                            | 2               | 2                             | 68                   | 63 | 62 | 57 | 57 | 56 |    |
|               | 80,000                     | 2 Pipe or 2-in Concentric  | 2               | 2                             | 46                   | 41 | 28 | 23 | 22 | 13 |    |
|               |                            |                            | 2-1/2           | 2-1/2                         | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               | 100,000                    | 2 Pipe or 3-in Concentric  | 2-1/2           | 2-1/2                         | 33                   | 24 | 15 | 14 | 5  | NA |    |
|               |                            |                            | 3               | 3                             | 70                   | 70 | 70 | 66 | 61 | 56 |    |
|               | 120,000                    | 2 Pipe or 3-in. Concentric | 3† no disk      | NA                            | 65                   | 58 | 51 | 44 | 38 | 31 |    |
|               |                            |                            | NA              | 3†                            | 59                   | 59 | 58 | 57 | 57 | 56 |    |
|               | 140,000                    | 2 Pipe or 3-in. Concentric | 4† no disk      | 4† no disk                    | 70                   | 70 | 70 | 70 | 70 | 70 |    |
|               |                            |                            | 3† one disk     | NA                            | 11                   | 6  | NA | NA | NA | NA |    |
|               |                            |                            | 3† no disk      | NA                            | 30                   | 26 | 22 | 18 | 14 | 10 |    |
|               |                            |                            |                 | 4† no disk                    | NA                   | 70 | 70 | 70 | 70 | 70 |    |

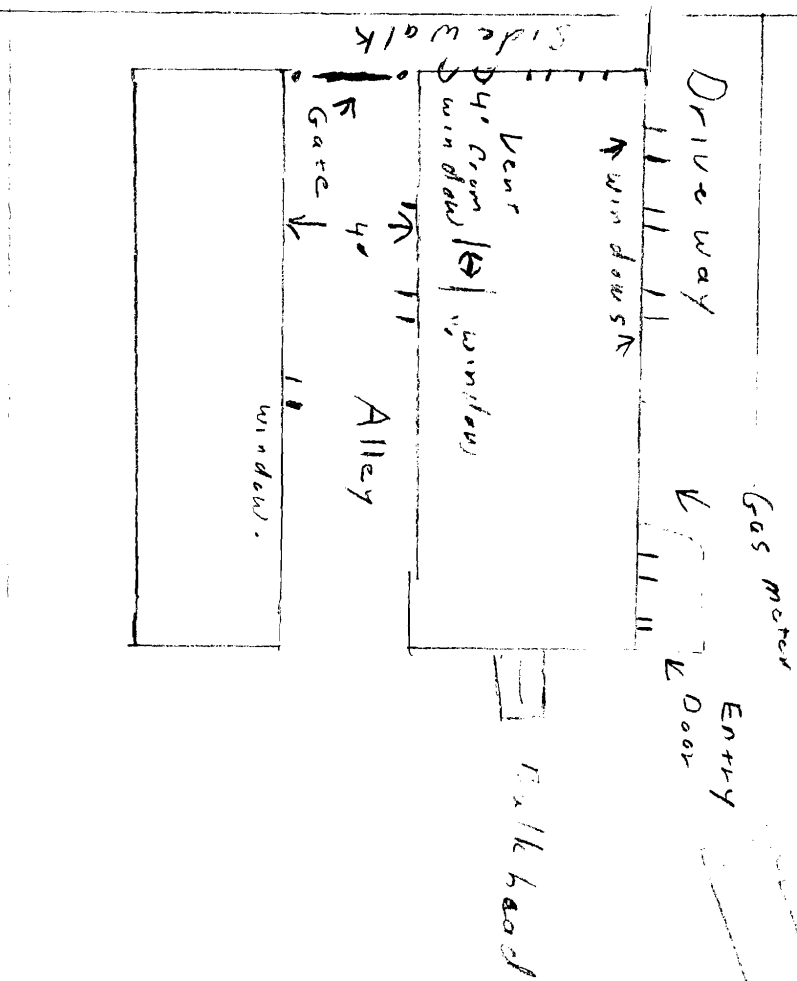
See notes at end of table

Congress St

Moulton St

Cherry St

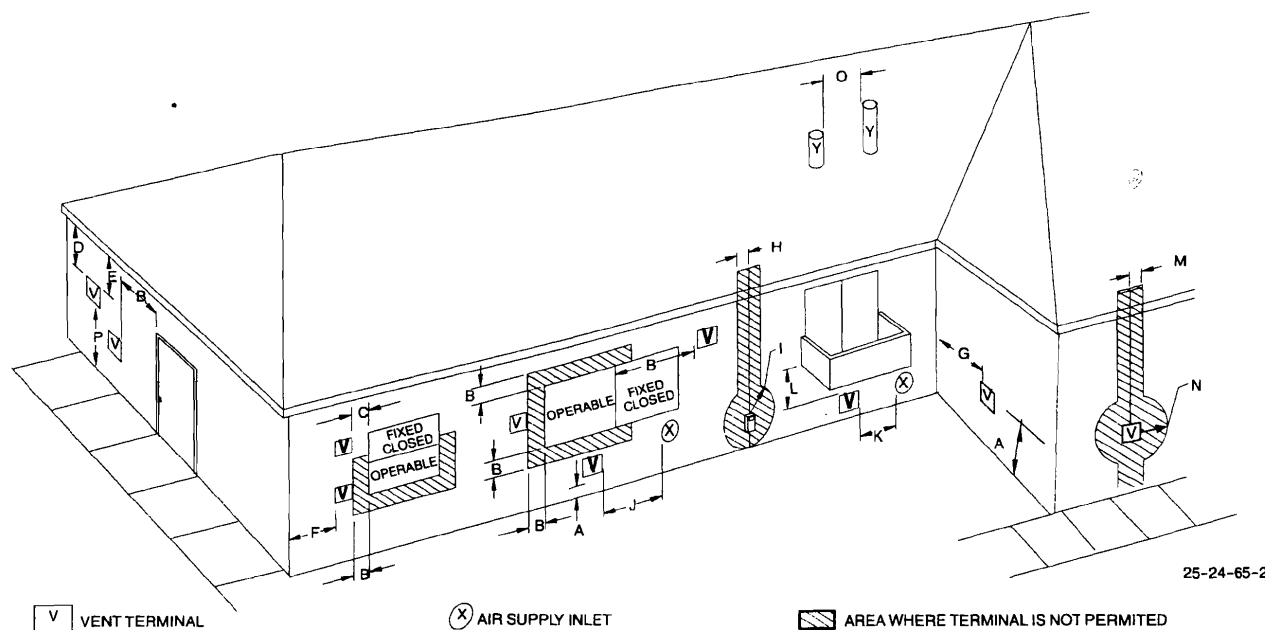
Hemlock St



NOV 28 2007

13 Hemlock St

Table 10—Maximum Allow



V VENT TERMINAL

X AIR SUPPLY INLET

AREA WHERE TERMINAL IS NOT PERMITTED

| Item | Clearance Descriptions   | Canadian Installation (1)   | U.S. Installation (2)  |
|------|--|---|--|
| A    | Clearance above grade, veranda, porch, deck, balcony, or anticipated snow level  | 12 inches (30cm) #  | 12 inches (30 cm)  |
| B    | Clearance to a window or door that may be opened   | 6 inches (15 cm) for appliances $\leq 10,000$ Btuh (3 kW)<br>12 inches (30 cm) for appliances $> 10,000$ Btuh (3 kW)<br>and $\leq 100,000$ Btuh (30 kW), 36 inches (91 cm) for<br>appliances $> 100,000$ Btuh (30 kW) | 4 feet (1.2 m) below or to the side of the opening. 1 foot (30 cm)<br>above the opening. |
| C    | Clearance to a permanently closed window   | *   | *  |
| D    | Vertical clearance to a ventilated soffit located above the<br>terminal within a horizontal distance of 2' (61cm) from the<br>centerline of the terminal                                 | *   | *  |
| E    | Clearance to an unventilated soffit  | *   | *  |
| F    | Clearance to an outside corner   | *   | *  |
| G    | Clearance to an inside corner  | *   | *  |
| H    | Clearance to each side of the centerline extended above<br>electrical meter or gas service regulator assembly  | 3 feet (91 cm) within 15 feet (4.5 m) above the meter/regulator<br>assembly   | 3 feet (91 cm) within 15 feet (4.5 m) above the meter/regulator<br>assembly              |
| I    | Clearance to service regulator vent outlet   | 3 feet (91 cm)  | *  |
| J    | Clearance to non-mechanical air supply inlet to building or<br>the combustion air inlet to any other appliance   | 6 inches (15 cm) for appliances $\leq 10,000$ Btuh (3 kW)<br>12 inches (30 cm) for appliances $> 10,000$ Btuh (3 kW)<br>and $\leq 100,000$ Btuh (30 kW)<br>36 inches (91 cm) for appliances $> 100,000$ Btuh (30 kW)  | 4 feet (1.2 m) below or to the side of opening; 1 foot (30 cm)<br>above opening.         |
| K    | Clearance to a mechanical air supply inlet   | 6 feet (1.83 m)   | 3 feet (91 cm) above if within 10 feet (3 m horizontally)                                |
| L    | Clearance under a veranda, porch, deck, or balcony   | 12 inches (30 cm) +   | *  |
| M    | Clearance to each side of the centerline extended above or<br>below vent terminal of the furnace to a dryer or water heater<br>vent, or other appliance's direct vent intake or exhaust. | *   | *  |
| N    | Clearance to the vent terminal of a dryer vent, water heater<br>vent, or other appliances direct vent intake or exhaust.   | *   | *  |
| O    | Clearance from a plumbing vent stack   | *   | *  |
| P    | Clearance above paved sidewalk or paved<br>driveway located on public property   | 7 feet (2.13m)**  | 7 feet (2.13m)   |

(1.) In accordance with the current CSA B149.1, Natural Gas and Propane Installation Code

(2.) In accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code

# 18" (46 cm) above roof surface

+ Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

\* For clearances not specified in ANSI Z223.1/NFPA 54 or CSA B149.1, clearances shall be in accordance with local installation codes and the requirements of the gas supplier and the Manufacturer's installation instructions.

\*\* A vent shall not terminate above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

## Notes:

- The vent for this appliance shall not terminate
  - Over public walkways; or
  - Near soffit vents or crawl space vents or other areas where condensate or vapor could create a nuisance or hazard or property damage; or
  - Where condensate vapor could cause damage or could be detrimental to the operation of regulators, relief valves, or other equipment.
- When locating vent terminations, consideration must be given to prevailing winds, location, and other conditions which may cause recirculation of the combustion products of adjacent vents. Recirculation can cause poor combustion, inlet condensate problems, and accelerated corrosion of the heat exchangers.
- Avoid venting under a deck or large overhang. Recirculation could occur and cause performance or system problems.

→ Table 9—Other than Direct Vent Termination Clearance

A05013

\* Pipe length (ft) specified for maximum pipe length as specified in Table 11.

† Insulation thickness based on R value of

2. If required per Table 11, insert a grommet (factory-supplied in loose parts) into the combustion air pipe. If a grommet is not required, install only shouldered pipe.

Attachment of Combustion Air Pipe

- Determine location of combustion air intake housing and attach pipe to combustion air intake housing as shown in Fig. 37.
- Reposition combustion air intake housing to appropriate unused intake housing location.
- Install pipe grommet (factory-supplied) into the combustion air pipe. If a grommet is not required, install only shouldered pipe.
- Insert assembled combustion air pipe into the unused intake housing as shown in Fig. 37.
- Drill a 1/8-in. hole in 2-in. combustion air pipe using the unused intake housing as a guide.
- Install a field-supplied No. 6 or No. 8 pipe cap on the combustion air pipe.
- Install casing hole filler cap (factory-supplied) in unused combustion air pipe.



## Before You Start

Check to be sure you have the right size boiler before starting the installation. See rating and capacity table on previous page. Also be sure the new boiler is for the type of gas you are using. Check the rating plate on the right side of the boiler.

You must see that the boiler is supplied with the correct type of gas, fresh air for combustion, and a suitable electrical supply. Also, the boiler must be connected to a suitable venting system and an adequate piping system. Finally, a thermostat, properly located, is needed for control of the heating system. If you have any doubts as to the various requirements, check with local authorities and obtain professional help where needed. Take the time to complete all of the steps for SAFE and PROPER operation of the heating system.

If this boiler is installed in a building under construction, special care must be taken to insure a clean combustion air supply during the construction process. Airborne particulates such as from drywall dust and from fiberglass insulation can clog the burner ports and cause incomplete combustion and sooting.

Where required by the authority having jurisdiction, the installation must conform to American Society of Mechanical Engineers Safety Code for Controls and Safety Devices for Automatically Fired Boilers, No. CSD-1.

The installation must conform to the requirements of the authority having jurisdiction or, in the absence of such requirements, to the National Fuel Gas Code, ANSI Z223.1-latest revision.

In Canada, the boiler shall be installed according to CSA-13149.1 and .2, Installation Code for Gas Burning Appliances and Equipment.

Installers - Follow local regulations with respect to installation of CO detectors. Follow maintenance recommendations in this instruction manual.  
Techniciens - Veuillez vous conformer a la réglementation en vigueur concernant l' installation des détecteurs d'oxyde de carbone. Suivre les consignes d'entretien figurant dans le manuel d'instruction ci-joint.

**KEEP BOILER AREA CLEAN AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE AND OTHER FLAMMABLE VAPORS AND LIQUIDS**

## Locating the Boiler

1. Select level location as centralized with piping system, and as near chimney as possible.
2. Place crated boiler at selected location, remove crate by pulling crate sides from top and bottom boards. Combustible floors: When boiler is to be installed on a combustible floor, a Special Base Plate must be used - 146-14-031 (2-6 Section) or 146-14-032 (7-9 Section). This boiler must not be installed on carpeting.
3. Boiler is to be level. Metal shims may be used under base legs for final leveling.
4. Addition clearance for service may exceed clearance for fire protection. Always comply with the minimum fire protection clearance shown on the boiler. An 18 inch clearance should be maintained on any side where passage is required to access another side for cleaning, servicing, inspection or replacement of any part that may need attention.

Figure 2 shows minimum clearances to combustible construction. Rooms that are large in comparison with the size of the boiler are defined as rooms having a volume equal to or greater than 16 times the volume of the boiler. Where the actual ceiling height of a room is greater than 8' the volume of a room shall be figured on the basis of a ceiling height of 8'. Determination of room size should be based on the total volume of all gas fired equipment installed in the room. Consult section 6.3.1 of the National Fuel Gas Code for further information, including approved methods for reducing clearances in large rooms.

5. Equipment shall be installed in a location in which the facilities for ventilation permit satisfactory combustion of gas, proper venting, and maintenance of ambient temperature at safe limits under normal conditions of use. Equipment shall be located so as not to interfere with proper circulation of air. When normal infiltration does not provide the necessary air, outside air shall be introduced (See Page 5 - "Fresh Air for Combustion").
6. Advise owner to keep air passages free of obstructions.

Ventilating and combustion air must enter boiler room without restrictions.

7. The boiler shall be installed such that the automatic gas ignition system components are protected from water (dripping, spraying, rain, etc.) during appliance operation and service (condensate trap, control replacement, etc.).

**FIG. 2 - MINIMUM CLEARANCE DIMENSIONS**

|                        | Alcove, or Room not Large<br>in Comparison with Boiler |  | Room Large<br>Comparison<br>With Boiler |
|------------------------|--|--|---|
|                        | 3-5 SECT.  | 6-9 SECT.  | 3-9 SECT.                               |
| TOP                    | 6"   | 6"   | 6"                                      |
| REAR                   | 6"   | 6"   | 6"                                      |
| RIGHT SIDE             | 6"   | 24"  | 6"                                      |
| LEFT SIDE              | 6"   | 24"  | 6"                                      |
| FRONT                  | 18"  | 18"  | 18"                                     |
| FLUE/VENT<br>CONNECTOR | 6"   | 6"   | 6"                                      |
| NEAR BOILER<br>PIPING  | 1"   | 1"   | 1"                                      |
| BOILER SIZE            | BOILER<br>VOLUME<br>(Cu.Ft.)                           | MINIMUM ROOM VOLUME<br>REQUIRED TO BE LARGE<br>ROOM (Cu.Ft.) |   |
| 3 SECT.                | 5.4  | 86.6   |   |
| 4 SECT.                | 7.0  | 111.6  |   |
| 5 SECT.                | 8.5  | 136.6  |   |
| 6 SECT.                | 10.1   | 161.7  |   |
| 7 SECT.                | 11.7   | 186.7  |   |
| 8 SECT.                | 13.2   | 211.7  |   |
| 9 SECT.                | 14.8   | 236.7  |   |

\* FOR ROOM WITH SINGLE BOILER ONLY  
THIS UNIT MUST BE SET ON A CONCRETE OR OTHER  
NONCOMBUSTIBLE MATERIAL BASE OR FLOOR.

**Provision for combustion and venting of the National Fuel Gas Code.**

### WARNING

Be sure to provide enough fresh air to insure proper combustion and avoid the development of carbon monoxide.

You must provide for enough fresh air to insure proper combustion. The house must have only enough oxygen to support the fire in the boiler. Outside air must enter the house to replace the oxygen used. See following examples 1 and 2 to determine y

**EXAMPLE 1: Boiler Located in Unconfined Space**  
An unconfined space is defined as a space having a volume of less than 50 cubic feet per 1,000 Btu per hour of appliances installed in that space.

If your boiler is in an open area (unpartitioned house, the air that leaks through the cracks will usually be adequate to provide air for combustion. If not fit tightly. Do not caulk the cracks around the boiler. Equipment located in buildings of unusual design, provided with air for combustion, ventilated using the methods described in exam engineered. The authority having jurisdiction shall be consulted for engineered installations.

**EXAMPLE 2: Boiler Located in Confined Space**

**A. All Air from Inside the Building:** The boiler room shall be provided with two permanent openings to the outdoors. The volume of all spaces meets the criteria of the National Fuel Gas Code. The total input of all gas utilization equipment in the confined space shall be considered. Each opening shall have a minimum area of 1 square inch per 1,000 Btu per hour of the total input of equipment in the confined space, but not less than 3 inches. One opening shall be within 12 inches of the top and 6 inches of the bottom of the enclosure. Air openings shall not be less than 3 inches.

**B. All Air from Outdoors:** The confined space shall be provided with the dimension of air openings shall not be less than 3 inches. If they are used, they shall be of the same cross-sectional area of the openings to which they connect.

1. Two permanent openings, one commencing within 12 inches of the top and one commencing within 6 inches of the bottom, shall be provided. The openings shall be directly, or by the ducts, with the outdoors that freely communicate with the outdoors.
  - a) Where directly communicating with the outdoors, the opening shall have a minimum area of 1 square inch per 1,000 Btu per hour of total input of equipment in the enclosure. (See Figure 3A.)
  - b) Where communicating with the outdoors by ducts, each opening shall have a minimum area of 1 square inch per 2,000 Btu per hour of total input of equipment in the enclosure. (See Figure 3B.)