

**City of Portland, Maine – Building or Use Permit Application** 389 Congress Street, 04101, Tel: (207) 874-8703, FAX: 874-8716

Location of Construction: <i>Lot #19 Stroudwater Pointe (15 Spar Ln) 34 Kingsmark Ln</i>		Owner: <i>Antoinette Demarco</i>		Phone: <i>878-3856</i>	Permit No: <b>980860</b>	
Owner Address: <i>2022 Washington Ave 04103</i>		Lessee/Buyer's Name:		Business Name:		
Contractor Name: <i>J. Gillespie Builders, Inc.</i>		Address: <i>13 Hunterway, Falmouth, ME 04105</i>		Phone: <i>878-3011</i>	<div style="border: 2px solid black; padding: 5px; text-align: center;"> <b>PERMIT ISSUED</b>                  Permit Issued:  <b>AUG - 7 1998</b>  <b>CITY OF PORTLAND</b> </div>	
Past Use: <i>Vacant Land</i>	Proposed Use: <i>1-fam dwelling</i>	COST OF WORK: \$ <i>130,000.00</i>	PERMIT FEE: \$ <i>670.00</i>	FIRE DEPT. <input type="checkbox"/> Approved <input type="checkbox"/> Denied		INSPECTION: Use Group: Type: <i>10</i>
Proposed Project Description: <i>Construct 1-fam dwelling</i>		Signature:		Signature: <i>[Signature]</i>		Zone: <i>1-1</i> CBL: <i>227-I-013</i> Zoning Approval: <b>Special Zone or Reviews:</b> <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"/>
Permit Taken By: <i>MG</i>	Date Applied For: <i>28 July 1998</i>		Signature: _____ Date: _____		<b>Zoning Appeal</b> <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	

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..

**PERMIT ISSUED WITH REQUIREMENTS**

**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 provisions of the code(s) applicable to such permit

SIGNATURE OF APPLICANT	ADDRESS:	DATE: <i>29 July 1998</i>	PHONE:
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE			PHONE:

CEO DISTRICT 3

COMMENTS

8/11/98 SPOKE W/ OWNER/ BUILDER & EXPLAINED PROCEDURES (TR)

10/8/98 Checked setbacks for footing OK  
all sides front & rear m.w.j.

10/19/98 Checked 10" Foundation wall  
4" drain pipe, lag, tarred walls out to  
backfill m.w.j.

1-19-99 OK to Insulate and Sheet Rock. we talked about  
the Garage being 1 hour with 1 hour doors.

Plumbing OK For Rough in and metal chimney meets specs.  
on clearances. TR

4-8-99 Duct From Dryer need to be changed to metal Flex tubing  
change Doors From Garage to 1 hour

Inspection Record	
Type	Date
Foundation: _____	_____
Framing: _____	_____
Plumbing: _____	_____
Final: _____	_____
Other: _____	_____



CITY OF PORTLAND, MAINE

Department of Building Inspection

# Certificate of Occupancy

LOCATION 34 Kingsmark Lane CBL#227-I-013

Formally known as 15 Spar Lane

Date of Issue 06/03/1999

Issued to Antoinette Demarco

This is to certify that the building, premises, or part thereof, at the above location, built — altered — changed as to use under Building Permit No. 980860, has had final inspection, has been found to conform substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES

Entire

APPROVED OCCUPANCY

New Single Family

BOCA 1996

Use R-3

Type 5B

Limiting Conditions:

This certificate supersedes  
certificate issued 4/15/1999

Approved:

6-3-99

(Date)

Inspector

Inspector of Buildings

Notice: This certificate identifies lawful use of building or premises, and ought to be transferred from owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.



**CITY OF PORTLAND**  
**Planning and Urban Development Department**

MEMORANDUM

CBL  
227-I-013

**TO:** Code Enforcement

**FROM:** Jim Wendel, Development Review Coordinator

**DATE:** April 9, 1999

**SUBJECT:** Request for Certificate of Occupancy  
34 Kingsmark Lane (lot 17)  
a.k.a. 15 Spar Lane

On April 8, 1999 the site was reviewed for compliance with the conditions of approval dated 12-18-98. My comments are:

1. The final site work could not be completed due to the time of year. This work must be completed by May 30, 1999.
2. On November 18, 1998 the applicant acquired a new street address from Public Works. The new and final street address is 34 Kingsmark Lane.

It is my opinion that a **temporary Certificate of Occupancy could be issued** assuming Code Enforcement has no outstanding issues.

**MEMORANDUM**

**TO:** Code Enforcement  
Kandi Talbot, Planner

**FROM:** Jim Wendel, P.E. Development Review Coordinator

**DATE:** May 24, 1999

**RE:** Certificate of Occupancy  
34 Kingsmark Lane (AKA 15 Spar Lane)

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Discussions with the homeowner have indicated that the bank requires a permanent certificate of occupancy in order to close on the sale. Completion of the site work can not occur in time for the closing date. Installation of the two trees can not occur until sometime in June; the homeowner has indicated that she has provided a copy of the invoice for the trees with Jeff Tarling. She has also indicated that the lawn is currently graded and loamed, and is scheduled to be hydroseeded on Wednesday May 26, 1999. The homeowner has promised to complete the work.

It is my opinion that we can reasonably expect that the work will be completed in a timely fashion and a permanent certificate of occupancy could be issued, assuming Code Enforcement has no outstanding issues.

/

**THIS IS NOT A PERMIT/CONSTRUCTION CANNOT COMMENCE UNTIL THE PERMIT IS ISSUED**

**Minor/Minor Site Review, Building or Use Permit Pre-Application  
Detached Single Family Dwelling**

In the interest of processing your application in the quickest possible manner, please complete the Information below for a Building or Use Permit.

**NOTE\*\*If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.**

Location/Address of Construction: <b>LOT #19 SPANOWATER POINT / <del>1818</del> KINGSMARK LANE</b>		
Total Square Footage of Proposed Structure <b>1984 SF</b>	Square Footage of Lot <b>18,588 SF</b>	
Tax Assessor's Chart, Block & Lot Number Chart# <b>227</b> Block# <b>I</b> Lot# <b>13</b>	Owner: <b>ANTOINETTE DEMARCO</b>	Telephone#: <b>878-3856</b>
Lessee/Buyer's Name (If Applicable)	Owner's/Purchaser/Lessee Address: <b>2022 WASHINGTON AVE PORTLAND, MAINE 04103</b>	Cost Of Work: <b>\$ 130,000</b> Fee: <b>\$ 670</b>
Proposed Project Description:(Please be as specific as possible) <b>NEW SINGLE FAMILY HOME</b>		
Contractor's Name, Address & Telephone <b>J. GILLESPIE BUILDERS, INC 13 HUNTERWAY, FALMOUTH, ME 878-3011</b>		Rec'd By: <b>[Signature]</b>

Separate permits are required for Internal & External Plumbing, HVAC and Electrical installation. **04105**

- All construction must be conducted in compliance with the 1996 B.O.C.A. Building Code as amended by Section 6-Art II.
- All plumbing must be conducted in compliance with the State of Maine Plumbing Code.
- All Electrical Installation must comply with the 1996 National Electrical Code as amended by Section 6-Art III.
- HVAC(Heating, Ventilation and Air Conditioning) installation must comply with the 1993 BOCA Mechanical Code.

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) A Copy of your Construction Contract, if available
- 3) A Plot Plan (Sample Attached)

A "minor/minor" site plan review is required prior to permit issuance. The Site plan must be prepared and sealed by a registered land surveyor (2 copies are required). A complete plot plan (Site Plan) includes:

- The shape and dimension of the lot, all existing buildings (if any), the proposed structure and the distance from the actual property lines. Structures include decks porches, a bow windows cantilever sections and roof overhangs, as well as, sheds, pools, garages and any other accessory structures.
- Scale and North arrow; Zoning District & Setbacks
- First Floor sill elevation ( based on mean sea level datum);
- Location and dimensions of parking areas and driveways;
- Location and size of both existing utilities in the street and the proposed utilities serving the building;
- Location of areas on the site that will be used to dispose of surface water.
- Existing and proposed grade contours

**4) Building Plans (Sample Attached)**

A complete set of construction drawings showing all of the following elements of construction:

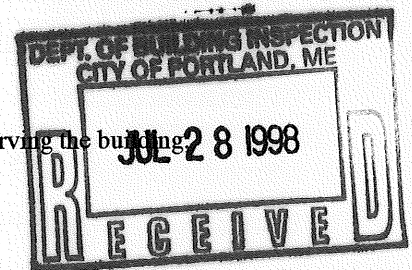
- Cross Sections w/Framing details (including porches, decks w/ railings, and accessory structures)
- Floor Plans & Elevations
- Window and door schedules
- Foundation plans with required drainage and dampproofing
- Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

**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/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: <b>Antoinette De Marco</b>	Date: <b>7-28-98</b>
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Site Review Fee: \$300.00/Building Permit Fee: \$25.00 for the 1st \$1000.cost plus \$5.00 per \$1,000.00 construction cost thereafter.



Applicant: J. Gillispie Builders, Inc Date: 8/5/98

Address: (lot #19) ~~Stroudwater Court~~ C.B.L.: 227-I-13  
KUSSMARK LANE / SPAR LANE

CHECK-LIST AGAINST ZONING ORDINANCE

Date - New

Zone Location - R-2

Interior or corner lot - 3-29 SPAR LANE

Proposed Use/Work - Construct 1 family with drive in garage with deck on side  
62' x 30' 8' x 12'

Sewage Disposal - City

- Lot Street Frontage - 50' req - 100'+ shown

Front Yard - 25' req - 25'+ shown

Rear Yard - 25' req - 25'+ shown

Side Yard - 20' req - 20'+ shown

Projections - front steps - left side Deck

Width of Lot - 80' req - 100'+ shown

Height - 1/2 story -

Lot Area - 10,000<sup>±</sup> 10,588

Lot Coverage/ Impervious Surface - 20% max 3,717.6<sup>±</sup> max

Area per Family - 10,000<sup>±</sup>

Off-street Parking - 2 spc req - 2 spc shown

Loading Bays - N/A

Site Plan - minor/minor

Shoreland Zoning/ Stream Protection - N/A

Flood Plains - Zone C - MAP 17

62 x 30 = 1860

8 x 12 = 96

1860 + 96 = 1956<sup>±</sup>

# BUILDING PERMIT REPORT

DATE: 5 Aug 1998 ADDRESS: #19 Kingsmark/Spar Lane (227-I-013)  
REASON FOR PERMIT: To Construct a single family dwelling  
BUILDING OWNER: A. Demarco  
CONTRACTOR: J. Gillespie Builders Inc  
PERMIT APPLICANT: \_\_\_\_\_  
USE GROUP R-3 BOCA 1996 CONSTRUCTION TYPE 5B

## CONDITION(S) OF APPROVAL

This Permit is being issued with the understanding that the following conditions are met:

Approved with the following conditions: \*1, \*2, \*2.5, \*2.6, \*5, \*6, \*8, \*10, \*12, \*16, \*24, \*25, \*26, \*27

- \* 1. This permit does not excuse the applicant from meeting applicable State and Federal rules and laws.
- \* 2. Before concrete for foundation is placed, approvals from the Development Review Coordinator and Inspection Services must be obtained. (A 24 hour notice is required prior to inspection)
- \* 2.5. Foundation drain shall be placed around the perimeter of a foundation that consists of gravel or crushed stone containing not more than 10 percent material that passes through a No. 4 sieve. The drain shall extend a minimum of 12 inches beyond the outside edge of the footing. The thickness shall be such that the bottom of the drain is not higher than the bottom of the base under the floor, and that the top of the drain is not less than 6 inches above the top of the footing. The top of the drain shall be covered with an approved filter membrane material. Where a drain tile or perforated pipe is used, the invert of the pipe or tile shall not be higher than the floor elevation. The top of joints or top of perforations shall be protected with an approved filter membrane material. The pipe or tile shall be placed on not less than 2" of gravel or crushed stone, and shall be covered with not less than 6" of the same material. 18
- \* 2.6. Foundations anchors shall be a minimum of 1 1/2" in diameter, 7" into the foundation wall, minimum of 12" from corners of From corners of foundation and a maximum 6'o.c. between bolts. ( Section 2305.17 )
3. Precaution must be taken to protect concrete from freezing.
4. It is strongly recommended that a registered land surveyor check all foundation forms before concrete is placed. This is done to verify that the proper setbacks are maintained.
- \* 5. Private garages located beneath habitable rooms in occupancies in Use Group R-1, R-2, R-3 or I-1 shall be separated from adjacent interior spaces by fire partitions and floor/ceiling assembly which are constructed with not less than 1-hour fire resisting rating. Private garages attached side-by-side to rooms in the above occupancies shall be completely separated from the interior spaces and the attic area by means of 1/2 inch gypsum board or the equivalent applied to the garage means of 1/2 inch gypsum board or the equivalent applied to the garage side. (Chapter 4 Section 407.0 of the BOCA/1996)
- \* 6. All chimneys and vents shall be installed and maintained as per Chapter 12 of the City's Mechanical Code. (The BOCA National Mechanical Code/1993). NFPA #211
7. Sound transmission control in residential building shall be done in accordance with Chapter 12 section 1214.0 of the city's building code.
- \* 8. Guardrails & Handrails: A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level. Minimum height all Use Groups 42", except Use Group R which is 36". In occupancies in Use Group A, B, H-4, I-1, I-2 M and R and public garages and open parking structures, open guards shall have balusters or be of solid material such that a sphere with a diameter of 4" cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect. (Handrails shall be a minimum of 34" but not more than 38". Use Group R-3 shall not be less than 30", but not more than 38".) Handrail grip size shall have a circular cross section with an outside diameter of at least 1 1/4" and not greater than 2". ( Sections 1021 & 1022.0 )
9. Headroom in habitable space is a minimum of 7'6". ( Section 1204.0 )
- \* 10. Stair construction in Use Group R-3 & R-4 is a minimum of 10" tread and 7 3/4" maximum rise. All other Use group minimum 11" tread, 7" maximum rise.( Section 1014.0 )
11. The minimum headroom in all parts of a stairway shall not be less than 80 inches. (6' 8")
- \* 12. Every sleeping room below the fourth story in buildings of use Groups R and I-1 shall have at least one operable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside without the use of special knowledge or separate tools. Where windows are provided as means of egress or rescue they shall have a sill height



not more than 44 inches (1118mm) above the floor. All egress or rescue windows from sleeping rooms shall have a minimum net clear opening height dimension of 24 inches (610mm). The minimum net clear opening width dimension shall be 20 inches (508mm), and a minimum net clear opening of 5.7 sq. ft. ( Section 1018.6 )

- 13. Each apartment shall have access to two (2) separate, remote and approved means of egress. A single exit is acceptable when it exits directly from the apartment to the building exterior with no communications to other apartment units.
- 14. All vertical openings shall be enclosed with construction having a fire rating of at least one (1) hour, including fire doors with self closer's. (Over 3 stories in height requirements for fire rating is two (2) hours.)
- 15. The boiler shall be protected by enclosing with (1) hour fire-rated construction including fire doors and ceiling, or by providing automatic extinguishment.
- \*16. All single and multiple station smoke detectors shall be of an approved type and shall be installed in accordance with the provisions of the City's Building Code Chapter 9, Section 19, 920.3.2 (BOCA National Building Code/1996), and NFPA 101 Chapter 18 & 19. (Smoke detectors shall be installed and maintained at the following locations):
  - In the immediate vicinity of bedrooms
  - In all bedrooms
  - In each story within a dwelling unit, including basementsIn addition to the required AC primary power source, required smoke detectors in occupancies in Use Groups R-2, R-3 and I-1 shall receive power from a battery when the AC primary power source is interrupted. (Interconnection is required)
- 17. A portable fire extinguisher shall be located as per NFPA #10. They shall bear the label of an approved agency and be of an approved type.
- 18. The Fire Alarm System shall be maintained to NFPA #72 Standard.
- 19. The Sprinkler System shall maintained to NFPA #13 Standard.
- 20. All exit signs, lights, and means of egress lighting shall be done in accordance with Chapter 10 Section & Subsections 1023. & 1024. Of the City's building code. (The BOCA National Building Code/1996)
- 21. Section 25-135 of the Municipal Code for the City of Portland states, "No person or utility shall be granted a permit to excavate or open any street or sidewalk from the time of November 15 of each year to April 15 of the following year".
- 22. The builder of a facility to which Section 4594-C of the Maine State Human Rights Act Title 5 MRSA refers, shall obtain a certification from a design professional that the plans commencing construction of the facility, the builder shall submit the certification to the Division of Inspection Services.
- 23. Ventilation shall meet the requirements of Chapter 12 Sections 1210. Of the City's Building Code. (crawl spaces & attics)
- \*24. All electrical, plumbing and HVAC permits must be obtained by a Master Licensed holders of their trade.
- \*25. All requirements must be met before a final Certificate of Occupancy is issued.
- \*26. All building elements shall meet the fastening schedule as per Table 2305.2 of the City's Building Code. (The BOCA National Building Code/1996).
- \*27. Ventilation of spaces within a building shall be done in accordance with the City's Mechanical Code (The BOCA National Mechanical Code/1993). ( Chapter M-16 )
- 28. Please read and implement the attached Land Use-Zoning report requirements.
- \*29. All glass and glazing shall be done in accordance with Chapter 24 of The Bldg. Code
- \*30. Your plans does NOT show header size over garage door - Please submit this before work begins.
- \*31. Design of Floor Truss and rafter also must be submitted.
- \*32. Cutting, Notching & Boring - 2305.5.1, 2305.3 and 2305.4.4
- 32. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

R. Samuel Hoffses, Building Inspector

cc: Lt. McDougall, PFD

Marge Schmuckal Zoning Adm

**CITY OF PORTLAND, ME  
BOCA 1996 Plan Review Record  
One and Two Family Dwelling**

Valuation: \$130,000.00 Plan Review # \_\_\_\_\_  
 Fee: \$670.00 Date: 5 Aug 1998

Building Location: 19 Kingsmark CBL: 227-I-013

Building Description: To Construct a single family dwelling/garage.

Reviewed by: S. Hoffses

Use or Occupancy: R-3 Type of Construction: 5B

\*NR: Not Required NA: Not Applicable SR: See Report X: OK per plan

Correction List		
NO:	Description	Code Section
1.	All site plan and building code requirements must be completed before a Certificate of Occupancy can or will be issued	111.4
2.	Foundation drains	1813.512
3.	Foundation anchor	2805.17
4.	Private garage	407
5.	Guardrails & Handrail	1021 1022
6.	STAIRS	1014.0
7.	Sleeping rooms	1018.6
8.	Smoke detectors	920.3.2
9.	Fastening schedule	Table 2305.2
10.	Water proofing & damp	1813
11.	Flt - PLBG perm. TS HVAC	-
12.	Glass & Glazing	Chapter 24

REV: PSH 6-28-98

## Foundations (Chapter 18)

### Wood Foundation (1808)

NA Design  
NA Installation

### Footings (1807.0)

OK Depth below (outside) grade 4' minimum;  
but below frost line except for insulated footings.  
NA Insulated footing provided  
OK Soil bearing value (table 1804.3)  
20 Footing width  
OK Concrete footing (1810.0) .3.1, 3.2  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Foundation Walls

\_\_\_\_\_  
Design (1812.1)  
10" Minimum thickness Tables 1812.3.2.(1) & 1812.3.2 (2)  
SA Water proofing and damp proofing Section 1813  
OK Sill plate (2305.17)  
SA Anchorage bolting in concrete (2305.17)  
OK Columns (1912)  
SA Crawl space (1210.2) Ventilation  
SR Crawl opening size (1210.2.1)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Floors (Chapter 16-23)

SR Joists - Non sleeping area LL40PSF (Table - 1606)  
SA Joists - Sleeping area LL30PSF (Table - 1606)  
\_\_\_\_\_  
   Grade  
   Spacing  
   Span  
\_\_\_\_\_  
Girder 4" bearing 2305

## Floors (contd.)

- Bearing (1 1/2" minimum on wood or steel 3" on masonry) and lapped (3")
- Bridging (2305.16)
- SM Boring and notching (2305.5.1)
- Cutting and notching (2305.3)
- Fastening table (2305.2)
- SM Floor trusses (AFPANDS Chapter 35)
- Draft stopping (721.7)
- Framing of openings (2305.11) (2305.12)
- Flooring - (2304.4) 1" solid - 1/2" particle board
- EP Concrete floors (1905) 3 1/2" 6 mil polyethylene vapor retarder
- 
- 
- 
- 
- 

## Wall Construction (Chapter 2300)

- OK Design (1609) wind loads
- OK Load requirements
- OK Grade
- SR Fastening schedule (Table 2305.2)
- 2x6 Wall framing (2305.4.1)
- OK Double top plate (2305.4.2)
- OK Bottom plates: (2305.4.3)
- SM Notching and boring: (2305.4.4) studs
- 2x4 Non load bearing walls (2305.5)
- SR Notching and boring (2305.5.1)
- SR Wind bracing (2305.7)
- OK Wall bracing required (2305.8.1)
- OK Stud walls (2305.8.3)
- Sheathing installation (2305.8.4)
- OK/NA Minimum thickness of wall sheathing (Table 2305.13)
- NA Metal construction
- NA Masonry construction (Chapter 21)
- V/S Exterior wall covering (Chapter 14)
- OK Performance requirements (1403)
- V/n VL Materials (1404)
- NA Veneers (1405)
- GYP Interior finishes (Chapter 8)
- 
- 
-

### Roof-Ceiling Construction (Chapter 23)

- SR Roof rafters - Design (2305.15) spans
- 1/2 Roof decking and sheathing (2305.15.1) 5/8" boards and (2307.3) (Table 2307.3.1(2))
- SR Roof trusses (2313.3.1)

### Roof Coverings (Chapter 15)

- OK Approved materials (1404.1)
- | Performance requirement (1505)
- | Fire classification (1506)
- | Material and installation requirements (1507)
- NA Roof structures (1510.0)
- Asph flt Type of covering (1507)

### Chimneys and Fireplaces BOCA Mechanical/1993

- SR Masonry (1206.0)
- | Factory - built (1205.0)
- | Masonry fireplaces (1404)
- | Factory - built fireplace (1403)

### Mechanical 1993 BOCA Mechanical Code

- |
- |
- |
- |
- |
- |

# State Plumbing Code

SR  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Load Design Criteria

Floor live load sleeping	<u>30 PSF</u>
Floor live load non sleeping	<u>40 PSF</u>
Roof live load	<u>42 PSF</u>
Roof snow load	<u>46 PSF</u>
Seismic Zone	<u>2</u>
Weathering area	<u>S</u>
Frost line depth	<u>4' MIN</u>

OK SR  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Glazing (Chapter 24)

- SR Labeling (2402.1)
- SR Louvered window or jalousies (2402.5)
- SR Human impact loads (2405.0)
- SR Specific hazardous locations (2405.2)
- SR Sloped glazing and skylights (2404)

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Private Garages (Chapter 4)

- SR General (407)
- SR Beneath rooms (407.3)
- SR Attached to rooms (407.4)
- SR Door sills (407.5)
- SR Means of egress (407.8)
- SR Floor surface (407.9)

\_\_\_\_\_  
\_\_\_\_\_

Egress (Chapter 10)

- ~~OA~~ One exit from dwelling unit (1010.2)
- ~~SA~~ Sleeping room window (1010.4)
- ~~N/A~~ EXIT DOOR (1017.3) 32" W 80" H
- ~~N/A~~ Landings (1014.3.2) stairway
- ~~N/A~~ Ramp slope (1016.0)
- ~~SA~~ Stairways (1014.3) 36" W
- ~~SA~~ Treads (1014.6) 10" min.
- ~~SA~~ Riser (1014.6) 7 3/4" max.
- ~~N/A~~ Solid riser (1014.6.1)
- ~~N/A~~ Winders (1014.6.3)
- ~~N/A~~ Spiral and Circular (1014.6.4)
- ~~SA~~ Handrails (1022.2.2.) Ht.
- ~~SA~~ Handrail grip size (1022.2.4) 1 1/4" to 2"
- ~~SA~~ Guards (1012.0) 36" min.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Smoke Detectors (920.3.2)

- ~~SA~~ Location and interconnection
- ~~I~~ Power source

Dwelling Unit Separation  
Table 602

N/A

070738

WARRANTY DEED  
(33 M.R.S.A. 775 [1])

IRMA DEMARCO and UMBERTO DEMARCO, of Portland, in the County of Cumberland and State of Maine, husband and wife, for consideration paid, do hereby grant to ANTOINETTE DEMARCO, of said Portland, whose mailing address is 2022 Washington Avenue in Portland, Maine 04103, with WARRANTY COVENANTS, the land in Cumberland County, Maine, described in Exhibit "A" annexed hereto and made a part hereof.

WITNESS our hands and seals this 24<sup>th</sup> day of the month of November, A.D. 1997.

SIGNED, SEALED, AND DELIVERED

IN PRESENCE OF :

Henry N. Berry III  
Witness

Irma De Marco L.S.  
IRMA DEMARCO  
Grantor

Henry N. Berry III  
Witness

Umberto De Marco L.S.  
UMBERTO DEMARCO  
Grantor

STATE OF MAINE  
CUMBERLAND, ss:

November 24, A.D. 1997

Then personally appeared the above named IRMA DEMARCO and UMBERTO DEMARCO and severally acknowledged the foregoing in instrument to be their free act and deed;

Before me,

SEAL

Henry N. Berry III  
HENRY N. BERRY III  
Notary Public

My Commission Expires October 26, 2004



## EXHIBIT "A"

A certain lot or parcel of land with any buildings thereon situated in the City of Portland, County of Cumberland, State of Maine, being more particularly bounded and described as Lot 19 delineated on plan entitled "Recording Plat, Stroudwater Point, Kingsmark Lane, Portland, Maine," dated September 23, 1987, revised through December 15, 1987, made by Owen Haskell, Inc., and recorded in the Cumberland County Registry of Deeds in Plan Book 168, Page 28.

This conveyance is made subject to and with the benefit of the following items:

1. Terms and conditions noted on said Plan.
2. Terms and conditions of Declaration of Protective Covenants and Common Easements by Berma Partnership dated August 11, 1988, and recorded in said Registry of Deeds in Book 8425, Page 250.
3. Terms and conditions contained in the deed to Berma Partnership by Lawrence C. Butler dated December 23, 1987, and recorded in said Registry of Deeds in Book 8119, Page 251.
4. Terms and conditions contained in an Easement Deed from Berma Partnership to Central Maine Power Company and New England Telephone and Telegraph Company dated May 24, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8444, Page 227.
5. Rights and easements granted to Central Maine Power company as set forth in instrument dated August 23, 1956 and recorded in said Registry of Deeds in Book 2326, Page 190;
6. Terms and conditions of an agreement between Berma Partnership, Bryan L. and Allison Beck and Gerald S. and Jacqueline Robinov dated July 7, 1988 and recorded in said Registry of Deeds in Book 8425, Page 260;
7. Rights and easements granted to Portland Water District as set forth in instruments dated August 29, 1988 and recorded in said Registry of Deeds in Book 8490, Page 165;
8. The condition that, prior to commencement of construction of a dwelling on the above-described premises, the Grantees shall submit to Berma Partnership or its agent the following: (a) a site plan showing the proposed location of such dwelling, the driveway, all walks, patios, landscaping and any proposed tree cutting, (b) floor plans for the dwelling and (c) elevation plans showing all facades of all buildings to be constructed. Berma Partnership or its agent shall approve such plans provided that they conform to the terms

Exhibit "A"

Page 2

and conditions of the above-referenced Declaration, and Berma Partnership or its agent determines, in its sole discretion, that construction in accordance with such plans will not be detrimental to the Stroudwater Point development, and the dwelling shall be constructed only in conformity with such approved plans. Upon completion of construction as evidenced by a Certificate of Occupancy issued by the City of Portland, the Grantees shall be deemed to have complied with this condition, unless Berma Partnership or its agent shall have recorded in the Cumberland County Registry of Deeds within 30 days of the issuance of said Certificate of Occupancy an affidavit stating otherwise; and

9. Any and all other encumbrances of record.

Being the same premises conveyed to the Grantees herein by Warranty Deed of Gary W. St.Pierre and Cynthia A. St.Pierre, dated July 15, 1992 and recorded in the Cumberland County Registry of Deeds in Book 10185 at Page 241.

RECEIVED  
RECORDED REGISTRY OF DEEDS

1997 NOV 24 PM 3:41

CUMBERLAND COUNTY

*John B. O'Brien*

**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM**

19980092  
I. D. Number

Demarco, Antoinette

7/28/98

Applicant

Application Date

2022 Washington Ave, Portland, ME 04103

Stroudwater Point/Kingsmark Ln

Applicant's Mailing Address

Project Name/Description

Consultant/Agent

15 Spar Ln

Address of Proposed Site

878-3856

227-I-013

Applicant or Agent Daytime Telephone, Fax

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply):  
 New Building     Building Addition     Change Of Use     Residential  
 Office     Retail     Manufacturing     Warehouse/Distribution     Parking Lot     Other (specify) deck and garage

1984

18588 Sq Ft

R-2

Proposed Building square Feet or # of Units

Acreage of Site

Zoning

**Check Review Required:**

- |                                                                |                                                         |                                                |                                                  |
|----------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------|--------------------------------------------------|
| <input checked="" type="checkbox"/> Site Plan<br>(major/minor) | <input type="checkbox"/> Subdivision<br># of lots _____ | <input type="checkbox"/> PAD Review            | <input type="checkbox"/> 14-403 Streets Review   |
| <input type="checkbox"/> Flood Hazard                          | <input type="checkbox"/> Shoreland                      | <input type="checkbox"/> Historic Preservation | <input type="checkbox"/> DEP Local Certification |
| <input type="checkbox"/> Zoning Conditional<br>Use (ZBA/PB)    | <input type="checkbox"/> Zoning Variance                | <input type="checkbox"/> Other _____           |                                                  |

Fees Paid:    Site Plan \$200.00    Subdivision \_\_\_\_\_    Engineer Review \$100.00    Date: 7/28/98

**Inspections Approval Status:**

Reviewer MARGE SCHMUCKAL

- Approved     **Approved w/Conditions**  
see attached     Denied

Approval Date 8/5/98    Approval Expiration \_\_\_\_\_    Extension to \_\_\_\_\_     Additional Sheets Attached

Condition Compliance \_\_\_\_\_  
signature \_\_\_\_\_ date \_\_\_\_\_

**Performance Guarantee**     Required\*     Not Required

\* No building permit may be issued until a performance guarantee has been submitted as indicated below

- |                                                             |                |                                                    |                 |
|-------------------------------------------------------------|----------------|----------------------------------------------------|-----------------|
| <input type="checkbox"/> Performance Guarantee Accepted     | _____          | _____                                              | _____           |
|                                                             | date           | amount                                             | expiration date |
| <input type="checkbox"/> Inspection Fee Paid                | _____          | _____                                              |                 |
|                                                             | date           | amount                                             |                 |
| <input type="checkbox"/> Building Permit Issued             | _____          |                                                    |                 |
|                                                             | date           |                                                    |                 |
| <input type="checkbox"/> Performance Guarantee Reduced      | _____          | _____                                              | _____           |
|                                                             | date           | remaining balance                                  | signature       |
| <input type="checkbox"/> Temporary Certificate of Occupancy | _____          | <input type="checkbox"/> Conditions (See Attached) |                 |
|                                                             | date           |                                                    |                 |
| <input type="checkbox"/> Final Inspection                   | _____          | _____                                              |                 |
|                                                             | date           | signature                                          |                 |
| <input type="checkbox"/> Certificate Of Occupancy           | _____          |                                                    |                 |
|                                                             | date           |                                                    |                 |
| <input type="checkbox"/> Performance Guarantee Released     | _____          | _____                                              |                 |
|                                                             | date           | signature                                          |                 |
| <input type="checkbox"/> Defect Guarantee Submitted         | _____          | _____                                              | _____           |
|                                                             | submitted date | amount                                             | expiration date |
| <input type="checkbox"/> Defect Guarantee Released          |                |                                                    |                 |



**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM  
ADDENDUM**

**19980092**  
I. D. Number

**Demarco, Antoinette**  
Applicant  
**2022 Washington Ave, Portland, ME 04103**  
Applicant's Mailing Address

**7/28/98**  
Application Date  
**Stroudwater Point/Kingsmark Ln**  
Project Name/Description

Consultant/Agent  
**878-3856**  
Applicant or Agent Daytime Telephone, Fax

**15 Spar Ln**  
Address of Proposed Site  
**227-I-013**  
Assessor's Reference: Chart-Block-Lot

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**DRC Conditions of Approval**

Approved subject to Site Plan Review (Addendum) Conditions of Approval:

All damage to sidewalk, curb, street, or public utilities shall be repaired to City of Portland standards prior to issuance of a Certificate of Occupancy.

Two (2) City of Portland approved species and size trees must be planted on your street frontage prior to issuance of a Certificate of Occupancy.

Your new street address is now 15 Spar Lane (Lot 19), the number must be displayed on the street frontage of your house prior to issuance of a Certificate of Occupancy.

The Development Review Coordinator (874-8300 ext.8722) must be notified five (5) working days prior to date required for final site inspection. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

Show all utility connections: water, sanitary, sewer, storm drain, electric, telephone, cable.

A sewer permit is required for you project. Please contact Carol Merritt at 874-8300, ext . 8828. The Wastewater and Drainage section of Public Works must be notified five (5) working days prior to sewer connection to schedule an inspector for your site.

As-built record information for sewer and stormwater service connections must be submitted to Public Works Engineering Section (55 Portland Street) and approved prior to issuance of a Certificate of Occupancy.

The site contractor shall establish finish grades at the foundation, bulkhead and basement windows to be in conformance with the first floor elevation (FFE) and sill elevation (SE) set by the building contractor to provide for positive drainage away from entire footprint of building.

A drainage plan shall be submitted to and approved by Development Review Coordinator showing first floor elevation (FFE), sill elevation (SE), finish street/curb elevation, lot grading, existing and proposed contours, drainage patterns and paths, drainage swales, grades at or near abutting property lines, erosion control devices and locations and outlets for drainage from the property.

The Development Review Coordinator reserves the right to require additional lot grading or other drainage. Eroded soil shall be contained on site. A crushed stone construction entrance is required.

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**Planning Conditions of Approval**

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**Inspections Conditions of Approval**

1. Separate permits shall be required for future decks, sheds, pools and/or garage.

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**Fire Conditions of Approval**

**CITY OF PORTLAND, MAINE  
DEVELOPMENT REVIEW APPLICATION  
PLANNING DEPARTMENT PROCESSING FORM  
ADDENDUM**

**19980092**

I. D. Number

**Demarco, Antoinette**

Applicant

**2022 Washington Ave, Portland, ME 04103**

Applicant's Mailing Address

Consultant/Agent

**878-3856**

Applicant or Agent Daytime Telephone, Fax

**7/28/98**

Application Date

**Stroudwater Point/Kingsmark Ln**

Project Name/Description

**15 Spar Ln**

Address of Proposed Site

**227-I-013**

Assessor's Reference: Chart-Block-Lot



FILL IN AND SIGN WITH INK

PERMIT ISSUED  
DEC 30 1998  
CITY OF PORTLAND

# APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT

981451

OK T. K...  
4-15-99

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 15 Spar Ln 227-I-13 Use of Building 1-Family Dwelling Date 12/29/98

Name and address of owner of appliance Antoinette Demarco, 2022 Washington Ave Ptld

Installer's name and address Gorham Heating, 205 North Gorham RD Gorham ME 04038

Telephone 892-8955

### Location of appliance:

- Basement
- Floor
- Attic
- Roof

### Type of Fuel:

- Gas
- Oil
- Solid

Appliance Name: Burhan 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 # \_\_\_\_\_
- Solid Fuel # \_\_\_\_\_
- Oil # 5920
- 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 5' feet.

Cost of Work: \$5500  
Fee: \$50.00

Approved

Approved with Conditions

Fire: \_\_\_\_\_

See attached letter or requirement

Ele.: \_\_\_\_\_

Bldg.: \$

Signature of Installer Charles S. Daugherty

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

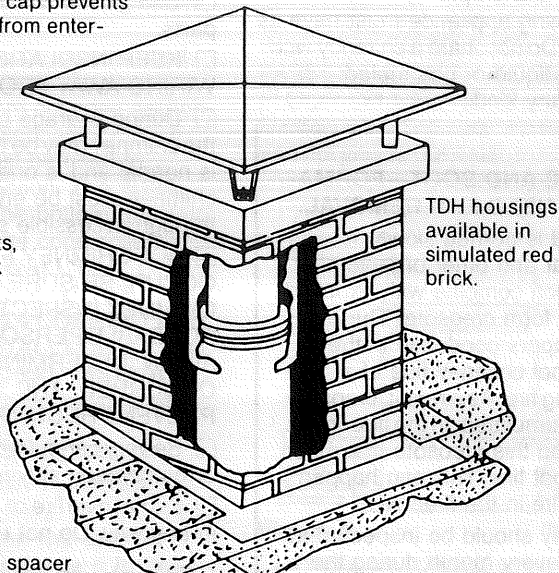
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# METLVENT® MODEL TD INSTALLATION INSTRUCTIONS

## Metlvent® Model TD 2100° F Type HT Factory-Built Chimney Systems

TDW weather cap prevents rain or snow from entering chimney.

TDH housing units are complete with flashing hold-down straps, dome brackets, bolts, etc., for quick and easy installation.



TDH housings available in simulated red brick.

TDFS firestop spacer offers complete protection at ceiling joists and maintains required clearances between chimney and combustible surfaces.

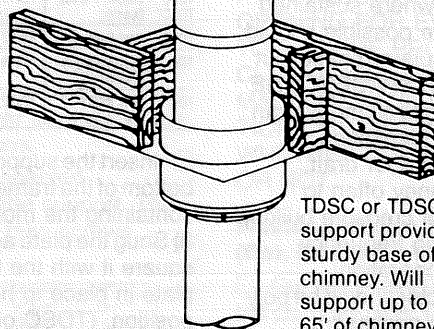
TDIS insulation shield provides an attic insulation barrier.

Accessory components are made from galvanized or painted steel, stainless or aluminum.

TD chimney pipe sections made in 6", 9", 18" and 30" lengths.

Exclusive safety-checked Thermagard® II insulation.

Simple and secure locking method. No screws or mastic required. Twisting of pipe unnecessary.



TDSC or TDSCT ceiling support provides sturdy base of chimney. Will support up to 65' of chimney.

### PLEASE READ CAREFULLY

The Model TD chimney pipe sections are constructed entirely of stainless steel. The inner and outer walls are separated by one inch of insulation\*. **THIS CHIMNEY SYSTEM MAY BE FULLY ENCLOSED BY THE STRUCTURE TO A MINIMUM AIR SPACE OF TWO INCHES, EXCEPT AT THE CEILING SUPPORT WHERE THE AIR SPACE IS ONE INCH.** The one inch clearance will result where this part is installed as described in the instructions. It is designed for **NEGATIVE PRESSURE** gas, liquid or solid fuel-fired residential appliances and nonresidential building heating appliances, low pressure steam boilers, hot water heating boilers, central furnaces, floor furnaces, heating stoves, cooking ranges, water heater, masonry and factory-built fireplaces and other applications where the flue gas temperatures do not exceed the following:

- 1000°F (538°C)** Maximum Continuous Appliance Outlet Flue Gas Temperature
- 1400°F (760°C)** For periods of up to 1 hour of unusual firing
- 2100°F (1149°C)** Up to 10 minutes at a time

Installations made in accordance with these instructions will be consistent with existing national safety standards such as National Fire Protection Association 211 and building codes such as the B<sub>9</sub>CA Basic Mechanical Code. These installation instructions are also consistent with the conditions of tests specified in Underwriters' Laboratories, Inc. Standard 103-1984 (ANSI/UL 103-1984) and are listed by UNDERWRITERS' LABORATORIES, INC.

### Preliminary Planning

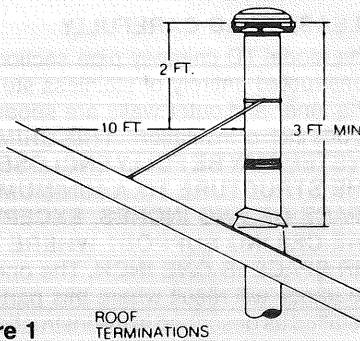
Take time to read through these instructions. Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.

Become familiar with the chimney system and the individual parts that constitute the type installation necessary for your application. Familiarity with the Hart & Cooley Metlvent system and local codes will help you design, purchase and install a safe chimney that conforms to code requirements.

\*Does not contain asbestos.

**WARNING: A MAJOR CAUSE OF CHIMNEY RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS CHIMNEY BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.**





**Figure 1**

ROOF  
TERMINATIONS

- Locate the chimney at a position near the appliance but where a minimum of structural interference will be encountered.
- Except where a support is used, a firestop space (TDFS) must be installed at each ceiling level, including the attic. At the attic level an insulation shield (TDIS) must also be used. A support assembly must be used to support the chimney. A correct termination must be used above the roof.
- Portions of the chimney which may extend through accessible spaces shall be enclosed in all cases to avoid personal contact with and damage to the chimney and to prevent combustible materials from being stored near or in contact with the chimney. Also, except for installation in one and two-family dwellings, a factory-built chimney that extends through any zone above that on which the connected appliance is located is to be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.

**CAUTION:**  
**UNDER NO CIRCUMSTANCES SHOULD THESE CHIMNEYS BE SURROUNDED BY INSULATION OR ANY MATERIAL WHICH WILL PREVENT NATURAL CIRCULATION OF AIR.**

To do so will increase the surrounding temperature on the structure. **MAINTAIN A MINIMUM 2" AIR SPACE TO THE PIPE AT ALL TIMES.**

- Insure that the termination height conforms to local building code requirements. The National Fire Protection Association standards require that **THE CHIMNEY MUST EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST SIDE OF THE ROOF OPENING WHERE THE CHIMNEY PASSES THROUGH AND AT LEAST 2 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN A 10 FOOT HORIZONTAL DISTANCE. (SEE FIG. 1)**

- Notify your insurance company of your plans. An improper installation may void your coverage.
- Use only those appliances that are labeled as having been approved by a recognized testing agency or approval authority. The directions furnished with a listed appliance will help you with a safe installation and proper operation.

- All portions of the chimney system must be accessible for inspection and cleaning. The topper is removed by rocking from side to side and lifting off.
- For safety and proper operation, each solid fuel burning appliance must have its own chimney. Do not share a chimney with another solid, liquid or gas fueled appliance of any kind.

**CAUTION:**

**CREOSOTE AND SOOT—FORMATION AND NEED FOR REMOVAL.**

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. This can happen with a hot fire in the firebox.

The chimney should be inspected at least once every month during the heating season to determine if a creosote or soot buildup has occurred. If creosote or soot has accumulated, it should be removed to reduce the risk of chimney fire.

**To minimize creosote buildup:**

- 1) Size the stove to your needs—do not use one larger than required. Size the chimney to match the stove collar diameter. Oversized chimneys may contribute to creosote buildup.
- 2) Burn small hot fires in order to keep the flue gas temperatures hot enough to prevent condensation inside the chimney. 400°-500°F is an approximate range. Daily hot firing for 30 minutes will help reevaporate creosote.
- 3) Exterior mounted chimneys in geographical areas where sustained low temperatures are possible should be enclosed in an insulated chase, but still **MAINTAIN 2" AIR SPACE TO THE PIPE**. Failure to enclose chimneys can cause excessive condensation, creosote buildup and poor draft.
- 4) Initially inspect chimney often to determine the rate of creosote buildup and chimney cleaning frequency necessary for safe operation.
- 5) Chimney and connector should be poly brush cleaned when necessary. Chemical chimney cleaners are not recommended since their performance may not be dependable and some ingredients could harm stainless steel.

Coal burning appliances produce acidic products of combustion that will condense on the chimney wall during low fire conditions. If this acidic condensate is allowed to remain on the stainless steel for extended periods of time, it will reduce the life of the chimney.

**Helpful Hints**

- DO NOT ATTEMPT TO INSTALL ANY PIPE THAT IS DAMAGED OR CANNOT READILY BE ASSEMBLED.**
- Use gloves when handling chimney parts.
- KEEP INSULATION AND ELECTRICAL WIRING AWAY FROM THE CHIMNEY.**
- During average operating conditions, the chimney may be too hot to touch. This is normal and is one reason why the chimney must be enclosed when passing through accessible spaces.
- IF A CHIMNEY FIRE SHOULD OCCUR, BE SURE TO HAVE THE CHIMNEY INSPECTED BY A KNOWLEDGEABLE PERSON BEFORE USING IT AGAIN. DETERMINE WHY THE FIRE OCCURRED, AND TAKE STEPS TO PREVENT RECURRENCE.**
- Be very careful with the use of antique or homemade stoves.
- Do not overfire or abuse the appliance in any way. Do not use as an incinerator.

**I. Chimney up Through House Installing the Support Ceiling Supports (Catalog No. TDSC and TDSCCT - see Fig. 2)**

- Frame an opening using lumber dimensionally consistent with structural joists. This must be constructed square and level using the dimensions given in Table 1 for the pipe size to be used. The support sleeve provides the necessary clearance (Figs. 2 & 3). The support acts as a firestop at that level.

**Table 1 DIMENSIONAL DATA TABLE**

Model "TD" Dimensional Data						
Size Inside Dia.	6	7	8	10	12	14
Outside Dia.	8	9	10	12	14	16
Clearance To Enclosing Walls & Roof Structure	2	2	2	2	2	2
TDFS Firestop Framed	12x12	13x13	14x14	16x16	18x18	20x20
TDSC Support Framed TDSCCT Opening	10x10	11x11	12x12	14x14	16x16	18x18
TDRS Roof Opening	12x12	13x13	14x14	16x16	18x18	20x20
TDH Roof Assembly Dimensions	18x18	18x18	18x18	24x24	24x24	24x24
TDIS Attic Insulation Shield	12x12	13x13	14x14	16x16	18x18	20x20

- Insert the support sleeve up through the bottom of the framed opening with the end containing the mounting holes up. (Figure 2) Snug the plate against the framing and square it with the frame opening. Nail the plate in place to hold the assembly in position. (TDSC only)
- Nail the sleeves to the framed box using 8 penny common nails in all of the holes provided. Drive one nail part way into each side and check for position before completing nailing.
- When insulated pipe is to be continued below the support, the TDSC (or the TDRS) must be used. The bottom plate of the TDSC is screwed in place. This must be removed to allow passage of sections of insulated pipe. First, lock a section of pipe below the one to which the cone collar is

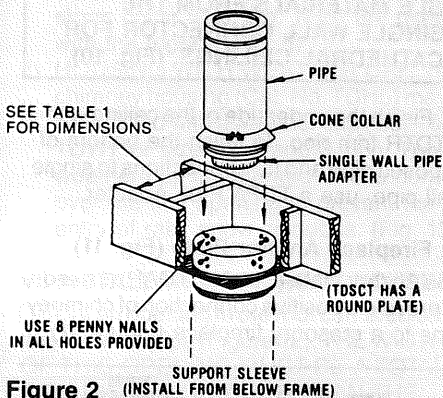
to be assembled. Assemble the cone collar and lower this assembly down through the support collar. Additional sections of pipe can then be added below. Maximum pipe which may be hung below the support is 20 feet.

□ If single wall connector pipe is used below this support, it must slip **over** the inner pipe of the bottom chimney section. (Figure 3) When using connector Pipe, a TDPA pipe adapter must be used to accomplish the connection. The TDPA must be installed on the bottom chimney section before adding the cone collar.

**NOTE: THE SINGLE WALL TO CHIMNEY CONNECTION AT THE CEILING SUPPORT IS A CORRECT AND U.L. APPROVED INSTALLATION EVEN THOUGH THE DIAGONAL DISTANCE FROM CEILING TO CONNECTOR PIPE IS LESS THAN 18".**

□ Each section of pipe has an arrow pointing up with word "UP" next to it at the top. The locking tabs are at the bottom. **Slip the cone collar on the bottom section of pipe and engage it in the groove near the bottom end of the pipe. Tighten the clamping bolt until snug. (Figure 2)**

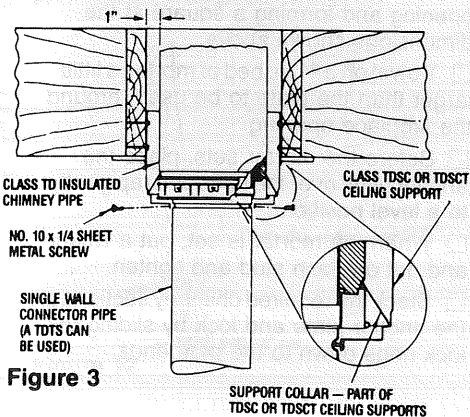
□ Set this section of pipe into the sleeve from above and make sure it is well seated in the pocket provided.



**Figure 2** (INSTALL FROM BELOW FRAME)

□ Chimney sections can now be stacked, seated and locked in place by sliding the lock band downward over the tabs to the bead. **Do not use screws.**

□ The TDTS may be connected to the bottom flange of the support. The groove in the TDTS will take screws

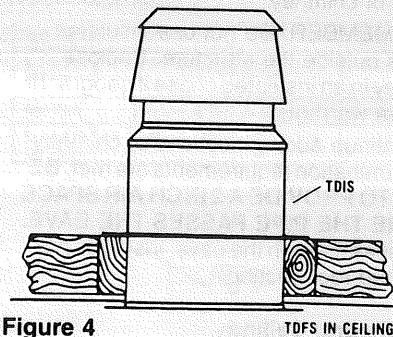


**Figure 3**

through the bottom flange of the support to hold the TDTS in place.

**Firestop Spacer (Cat. No. TDFS)  
Insulation Shield (Cat. No. TDIS)**

□ A FIRESTOP SPACER MUST BE INSTALLED WHENEVER A CHIMNEY PASSES THROUGH A COMBUSTIBLE FLOOR OR CEILING (See Figure 4). The firestop not only prevents passage of flame and hot gases, but it also maintains proper chimney spacing in the opening.



**Figure 4**

□ Frame an opening using dimensional lumber consistent with the structure and to the dimensions shown in Table 1 for the size pipe to be installed.

□ Stack the chimney until it extends upward to just below this framed opening.

□ Slide the firestop spacer down over the section of pipe that will extend up through the framed opening.

□ Place this section of pipe with the firestop on it up through the opening far enough to attach to the rest of the chimney and lock in place.

□ Push firestop up until the plate is snug and square with the framing.

□ Nail corners with 4 penny nails to maintain it in position.

□ THE INSULATION SHIELD (CAT. NO. TDIS) MUST BE INSTALLED ON THE ATTIC FLOOR OR ON TOP OF A FRAMED OPENING FOR EVERY INSTALLATION TO PROVIDE PROPER AIR SPACE CLEARANCE TO COMBUSTIBLE MATERIALS AND TO PREVENT INSULATION CONTACT WITH THE CHIMNEY WHETHER INSULATION IS PRESENT OR NOT.

**Flashing, Storm Collar and Topper (Cat. Nos. TDF, TDS, TDC, Fig. 5)**

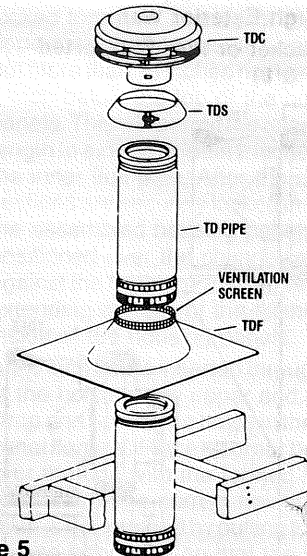
□ Cut an opening in the roof centered on the chimney pipe. The width of this opening must be a total of 4 inches larger than the outside diameter of the pipe (6 inches larger than the nominal pipe size) to **PROVIDE A 2 INCH AIR SPACE** around the chimney. The length of the opening will depend on the roof pitch, but also **MUST HAVE A 2 INCH AIR SPACE.** (See Figs. 6, 10, 12)

□ Install a section of chimney pipe and lock to chimney so that the uppermost section extends through the roof.

□ Slide the flashing (TDF) over the pipe until its plate fully contacts the roof. Center

the pipe in the opening and nail the flashing in place. Do not caulk or solder the flashing ventilation screen to the pipe or seal its openings. (See Fig. 5)

□ Place storm collar (TDS) around the chimney pipe. Push it down until complete contact is made with the top of the ventilation screen. Caulk the storm collar so that it will be water-tight. High temperature silicone RTV works well. When Metlvent sealer is used, wrap a single strip of caulk tape around pipe at desired location of storm collar. Then push storm collar down snugly to form pressure seal. (See Fig. 5)



**Figure 5**

□ Add sections of pipe to provide the required height and lock in place. (Fig. 1)

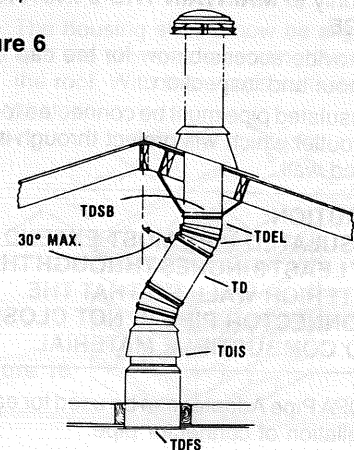
□ Topper (TDC) is now snapped in place preventing rain and debris from entering.

**Chimney Offsets (Cat. No. TDEL)**

□ In some instances it is necessary to offset the chimney to avoid framing members or to penetrate the roof closer to the ridge. This is accomplished by using the 15° elbow (TDEL). (Figure 6)

□ Whenever an offset is used, a support after the offset is required for additional support. Use the TDSB with pipe straps for this purpose. Locate the TDSB immediately below the joint where TD pipe connects to the top elbow.

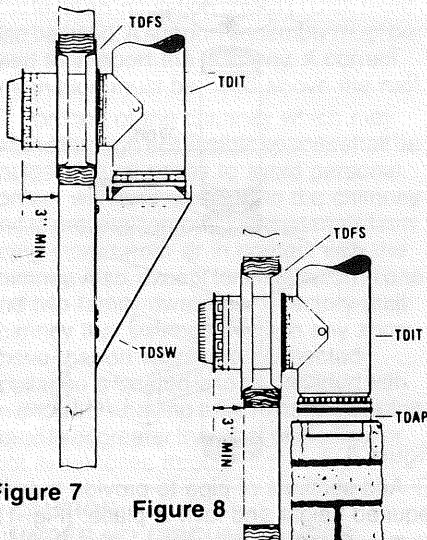
**Figure 6**



**CAUTION:**  
SUPPORT THE CHIMNEY OFFSET  
UNTIL THE SUPPORT AFTER  
OFFSET IS IN PLACE.

- The maximum allowable angle from vertical is 30°. The combination of two 15° elbows are used to offset 30°. The maximum distance between offsets is with the use of two 30" chimney sections.
- TDEL elbows are for use **only** inside the attic space as shown in Figure 6. Elbow joints are not waterproof.

## II. Through Exterior Wall Wall Bracket or Pier Supported (Figs. 7 & 8)



- An insulated Tee (TDIT) may be used to support chimneys on non-combustible wall brackets (TDSW) (Figure 7) or masonry piers (Figure 8). The maximum height chimney which can be so supported is 45 feet. See section IV for installation of TDAP anchor plate.

- Screw the triangular brackets to the framing members of wood structures using the 6<sup>5</sup>/<sub>16</sub> x 2 lag screws provided. For masonry structures use 5/16 in. masonry type lag bolts. Triangle support brackets must be mounted below the plate for 6" size only to **MAINTAIN THE 2 INCH AIR SPACE**.
- Provide access below for tee cap for cleanout and inspection.
- Insulated pipe must be connected to the side outlet which will project through a framed wall.

**CAUTION:**  
INSULATED PIPE MUST EXTEND  
AT LEAST 3 INCHES THROUGH THE  
INTERIOR WALL SO THAT THE  
CONNECTOR PIPE IS NOT CLOSE  
TO COMBUSTIBLE MATERIAL.

A TDPA Pipe Adapter can be used for easy installation of connector pipe.

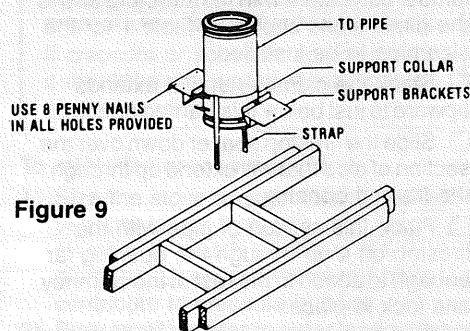
- A spacer (TDFS) must be installed on each side of the wall to provide firestopping and **PROPER 2 INCH AIR SPACE**. Frame to dimensions shown in Table 1. Use TDTR Cut-Out Trim Ring over TDFS if more pleasing appearance is required. (Fig. 7 & 8).

- Support the chimney with a wall band (TDWB) a minimum every 8 ft. The wall band is intended for lateral support and spacing and not to support the vertical weight of chimney.

- REMEMBER:** Do not use insulated elbows outside the structure. Enclose chimney in an insulated chase if geographical area warrants.

- Continue adding sections of chimney until termination requirements are met. **BE SURE TO PROVIDE A 2 INCH AIR SPACE WHERE THE PIPE PASSES THE EAVE.** If it passes through the eave, install as on any other roof section.

## III. Cathedral Ceiling Roof Support (Cat. No. TDRS, Fig. 9)



- Frame an opening in the roof as described in TDSC Section. The opening size is given in Table 1. For a flat roof the opening is square. The opening dimension of the slope will vary depending on the pitch of the roof. **BE SURE THERE IS A MINIMUM 2 INCH AIR SPACE AROUND CHIMNEY.** (Fig. 10)

- Clamp the support collar to a section of pipe of the desired length. With the 3/16 in. flange at the bottom of the collar, clamp it around the pipe so that the flange enters the groove near the bottom of the pipe. Draw the bolts up tightly.
- Install the support brackets to the 5/16 in. bolts and secure with the 5/16 in. nuts.
- Set the assembly on the framed opening and line up the assembly with the hole. Adjust the assembly up or down the slope of the roof to secure the proper clearance of the pipe to the framing members.
- Use 8d nails in each hole to secure the support brackets to the framing members. When 2 inch framing members are used, extra pieces must be used so as to use all the holes in the support brackets. (Fig. 9)
- Level the pipe section by placing a level across the top.

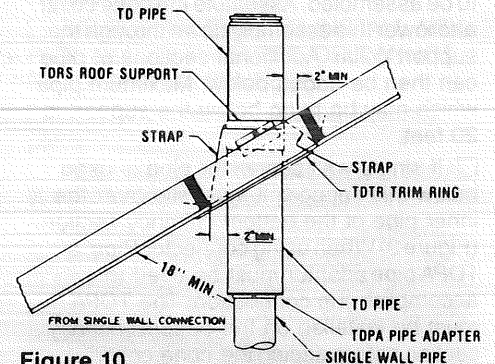


Figure 10

- NAIL THE STRAPS TO THE UNDERSIDE OF THE FRAMING TO HOLD THE ASSEMBLY LEVEL.** When sufficient insulated pipe is hung below the support to counter balance that which is exposed to the wind above the roof, the straps need not be used and may be cut off.

- Connect additional pipe above and below as required.
- The maximum chimney to be supported is 20 ft. below and 10 ft. above.

**CAUTION: AN INSULATED SECTION OF CHIMNEY MUST PASS COMPLETELY THROUGH THE ROOF FRAMING TO PROVIDE AN 18 IN. CLEARANCE TO COMBUSTIBLE MATERIALS FROM THE SINGLE WALL CONNECTOR FOR CATHEDRAL CEILINGS.** (Fig. 10)

- Finish the underside of the ceiling with a TDTR trim ring. To finish the bottom of exposed pipe and for connections to single wall pipe, use a TDPA Pipe Adapter.

## IV. Fireplace Anchor Plate (Fig. 11)

The Anchor plate (Cat. No. TDAP) is used to provide a positive connection of chimney pipe to a masonry fireplace (Figure 11).

Chimney Size	Spacing Between Bolts
6"	8 <sup>3</sup> / <sub>8</sub> "
7"	9 <sup>3</sup> / <sub>8</sub> "
8"	10 <sup>3</sup> / <sub>8</sub> "
10"	12 <sup>3</sup> / <sub>8</sub> "
12"	12 <sup>3</sup> / <sub>8</sub> "
14"	16 <sup>3</sup> / <sub>8</sub> "

Install it as follows:

- Anchor four 1/4 in. x 2 in. long bolts in the masonry spaced symmetrical with the opening and forming a square at the dimensions shown above.
- Trowel on a 3/4 in. bed of mortar, a little larger than the plate to be used, around the fireplace opening.
- Before the mortar sets, place the anchor plate over the bolts and rap gently to a level position.
- When the mortar is set, put a washer and nut on each stud and tighten.
- Stack the required chimney sections on the anchor plate and lock by sliding the lock rings down to the pipe ends.

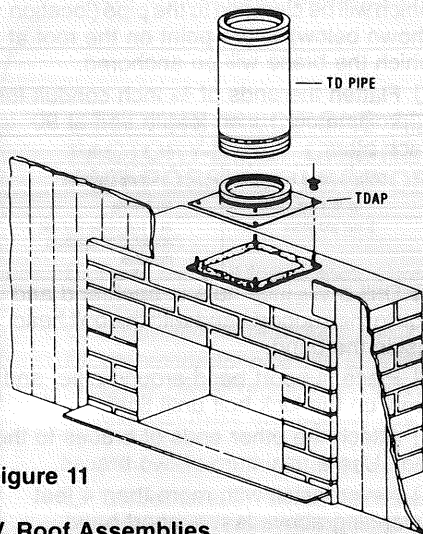


Figure 11

V. Roof Assemblies

**CAUTION: ONE OF THE BELOW TERMINATIONS MUST BE USED TO PREVENT MOISTURE DAMAGE TO CHIMNEY INSULATION.**

- The Model TD chimney must terminate in one of the following options:
  - 1) CHIMNEY TOPPER (Cat. No. TDC). This cap snaps into the top section of pipe to prevent rain and debris from entering. A flashing (Cat. No. TDF) and storm collar (Cat. No. TDS) are used with the topper. (Fig. 5)
  - 2) HOUSING WITH WEATHER CAP. The chimney housing (Cat. No. TDH5) may be installed with a weather cap (Cat. No. TDW) for sizes 6, 7 and 8 inch. The weather cap is mounted on the dome over the flue opening to prevent the entry of rain, snow or debris. (Fig. 13)

VI. INSTALLATION OF ROOF HOUSING

Cut an opening in the roof centered on the chimney pipe (Figure 12). THE WIDTH OF THIS OPENING MUST BE A TOTAL OF 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE OR 6 INCHES GREATER THAN THE NOMINAL PIPE SIZE TO **PROVIDE A 2 INCH AIR SPACE TO COMBUSTIBLES**. The length of the opening will depend on the roof pitch and the size of the roof rafters **ALLOWING 2 INCH AIR SPACE** to any part of the framing.

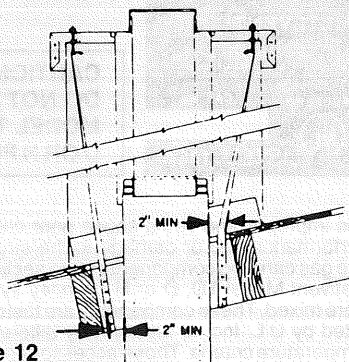


Figure 12

- The two telescoping halves of the roof flashing are slipped together with the upper section overlapping on top of the lower section (Figure 13). Place over the framed opening and extend flashing to center it on the pipe and the framed opening. **DO NOT NAIL AT THIS TIME.**
- Nail one end of each of the four hold-down straps to the rafters near each corner of the opening. Use two 8d nails for each strap.

Roof Pitch Table 2

Roof Pitch	1/12	2/12	3/12	4/12	5/12	6/12
6, 7 & 8 TD Panel	1 1/2	3	4 1/2	6	7 1/2	9

Roof Pitch	7/12	8/12	9/12	10/12	11/12	12/12
6, 7 & 8 TD Panel	10 1/2	12	13 1/2	15	16 1/2	18

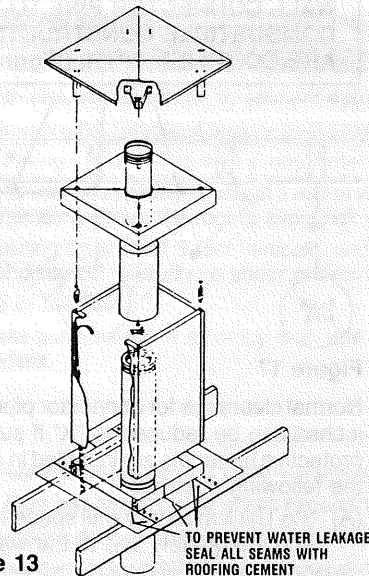


Figure 13

- Follow these steps in assembling the chimney housing panels (Cat. No. TDH Panel) and fastening the housing to the roof:

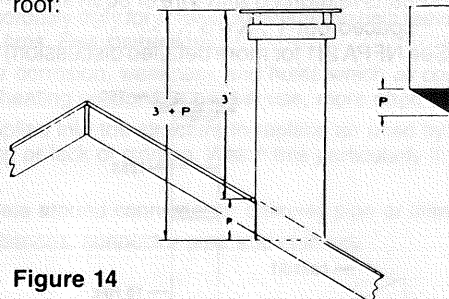


Figure 14

- (A) first determine the necessary height of the housing. These instructions indicate that **A CHIMNEY MUST EXTEND AT LEAST 3 FT. ABOVE THE HIGHEST POINT WHERE IT PASSES THROUGH THE ROOF OF A BUILDING, AND AT LEAST 2 FT. HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10 FT.** The required height of the housing will depend upon the pitch of the roof, and the distance from the ridge to the point where the chimney passes through the roof.

- (B) Then cut the side panels to fit the roof pitch. Table 2 (Figure 14) gives cutting dimensions for various roof pitches. After the side panels have been cut, the panel which will be on the upper side of the housing, adjacent to the short edge of the side panels, should be cut to suit.
- (C) The four panels are assembled to form a rectangular housing by sliding the corner lock seams together, as indicated in (Figure 15). Oiling corner seams will ease assembly.
- (D) Additional chimney pipe sections are now placed on top of the chimney and locked together. The top of the uppermost section should be at a point not more than 15 inches nor less than 1 inch below the top of the housing panels. This will permit the telescoping length to extend at least 2 inches into the inner flue pipe. After the chimney sections are securely locked in place, the assembled housing panels are positioned over the chimney and against the flashing, with the vertically extending flanges of the flashing inside of the housing panels.
- (E) A 2 1/2 inch bolt is inserted through one of the holes in the upper end of the strap and up into the holes in the side panel flanges. Place a corner bracket over the bolt with the formed flanges downward. The correct hole in the strap is determined by pulling the strap up and bending it so that the bolt will extend upward approximately one half inch through the hole. A square nut is then threaded on the end of the bolt, and the strap bent double to hold the bolt from turning. All four corners are fastened in this fashion, and drawn up finger tight.

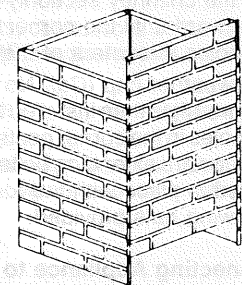


Figure 15

- (F) The housing should now be aligned with the chimney extending through the roof. With the straps sufficiently

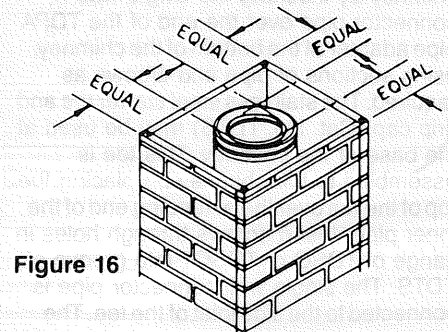


Figure 16

tight to insure that the bottom of the housing is firmly against the slope of the roof, the housing is moved as necessary to center the housing on the chimney, as shown by checking dimensions indicated in (Figure 16).

- (G) When the housing has been properly centered on the chimney, the two halves of the flashing should be pulled apart so that the vertical flanges on the top and bottom of the flashing are tight against the housing panels. The upper half of the flashing is then nailed to the roof, using three roofing nails across the top and down each side. **DO NOT NAIL THE LOWER SIDE OF THE FLASHING TO THE ROOF**, since the roofing on the lower side must be placed under the flashing.
- (H) Make a sub-assembly of the dome and telescoping length as follows:  
Insert the extended inner pipe of the telescoping length down through the hole in the dome.  
Center the outer pipe over the flange and bend the form tabs outward under the flange to lock in place.
- (I) Hang the heat shield to the underside of the dome as follows:  
Turn the assembly just made upside down. Turn the heat shield so that the end containing the square holes is towards the dome. By springing the shield, hook the square holes on to the tabs provided. The shield will then remain engaged without bending the tabs. (Fig. 12)
- (J) Lift this assembly over the housing assembly and insert the inner pipe of the telescoping length into the top chimney pipe. (The telescoping section should extend at least 2 inches into the chimney section.) Push downward until the corner bolts enter the holes in corners of the dome.
- (K) The weather cap (Cat. No. TDW) (Figure 13) is then installed by slipping the holes in the corner posts over the four upward extending bolts. It is then locked in place with the four washers and wing nuts provided.

### VII. Connecting Appliance to Chimney

If a weather cap (Cat. No. TDW) or topper (Cat. No. TDC) is used, the appliance may be connected to the chimney by inserting the single wall connector pipe over the end of the TDPA pipe adapter at the bottom of the chimney, using sections of pipe and elbows as required. The stainless steel starter tee and drip cap (Cat. No. TDTS) may be used at the base of the chimney. This tee is assembled to the chimney by placing the top of the tee over the extending end of the inner pipe. Insert screws through holes in flange of TDSC or TDSCT into groove of TDTS. The single wall connector pipe is connected to the side inlet of the tee. The

tee and drip cap will prevent any water which may enter the chimney from damaging the appliance. **MAINTAIN A MINIMUM OF 18 INCHES FROM SINGLE WALL CONNECTOR PIPE TO ALL COMBUSTIBLES.**

In cases where combustible construction may be immediately adjacent to the lower end of the chimney, the insulated tee (Cat. No. TDIT) may be used. **AIR SPACE TO TDIT FROM BUILDING MATERIALS SHOULD BE NOT LESS THAN 2 INCHES.** The connector pipe is connected into the side inlet of the tee.

**CAUTION:**  
IN ALL CASES, CARE SHOULD BE TAKEN TO SEE THAT PROPER CLEARANCES FROM THE SINGLE WALL CONNECTOR PIPE TO THE COMBUSTIBLE CONSTRUCTION ARE COMPLIED WITH. (Figure 17)

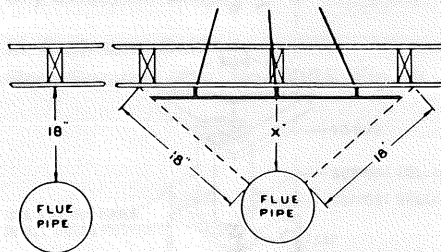


Figure 17

Normal clearance for connector pipe of 18 inches can be reduced to "X" if suitable protective materials are installed in one of the following manners:

- (A) 3½" Thick masonry wall spaced out 1" and adequately tied to the wall being protected, X=9".
  - (B) 28 Ga. sheet metal spaced out 1", X=9".
  - (C) 22 Ga. sheet metal on 1" mineral wool batts reinforced with wire or equivalent spaced out 1", X=3".
- (See NFPA 211 for more detailed discussion)

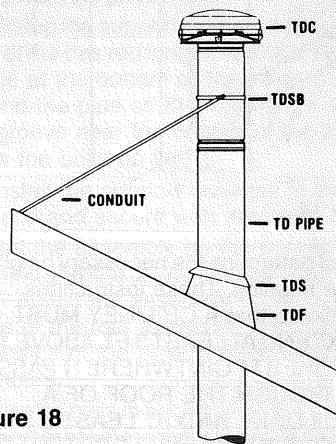


Figure 18

### Bracing

Round vent terminations which extend 5 feet or more above the roof must be braced. (Figure 18)

Determine length of brace required. Measure from the support band (TDSB)

which will be clamped to the pipe (location shown below) to the point on the roof at which the brace will be anchored.

Flatten the ends of ¾ inch conduit for approximately 1 inch length and at 90° to each other.

Distance Above Roof	Band Locations
Up to 4 feet	No Bracing
5 feet and above	At 5 feet above roof and at every 5 ft. increment thereafter

- Drill a 7/32 inch hole in each end and bolt to the support band with the bolt head inside the band.
- Place support band around pipe, and draw up the lock bolt until tight.
- Attach the other ends of braces to the roof. Use a minimum of two braces.
- Never install with more than 4 feet extending above last support band.

**REMEMBER: THESE INSTRUCTIONS MUST BE FOLLOWED AS THEY ARE WRITTEN. PARTS OTHER THAN OF HART & COOLEY MANUFACTURE MAY COMPROMISE THE SAFETY OF THE CHIMNEY AND VOID ITS U.L. LISTING. HEED THESE INSTRUCTIONS AND THOSE OF THE APPLIANCE CONNECTED TO THE CHIMNEY. FAILURE TO DO SO MAY RESULT IN SERIOUS FLUE DAMAGE AND POSSIBLE INJURY. IF THESE INSTRUCTIONS ARE NOT FOLLOWED EXACTLY AS WRITTEN, YOU MAY LOSE THE CERTIFICATION AND GUARANTEE OF THE CHIMNEY. THESE INSTRUCTIONS SHOULD REMAIN AVAILABLE TO THE OWNER AT ALL TIMES.**

**NOTICE: LOOK FOR METAL STAMP OR THESE RED LABELS ON MODEL TD CHIMNEY.**

**Hart & Cooley**

**METLVENT® TYPE HT**

INSTALL AND USE ONLY IN ACCORDANCE WITH HART & COOLEY INSTALLATION AND MAINTENANCE INSTRUCTIONS

MINIMUM CLEARANCE - 2 INCH AIR SPACE TO COMBUSTIBLE AND OTHER BUILDING MATERIALS

RESIDENTIAL TYPE AND BUILDING HEATING APPLIANCE CHIMNEY PART

MODEL TD CAT. No. [ ]

**UL LISTED 148A**

**Hart & Cooley**

**METLVENT® TYPE HT**

INSTALL AND USE ONLY IN ACCORDANCE WITH HART & COOLEY INSTALLATION AND MAINTENANCE INSTRUCTIONS

MODEL TD CAT. No. [ ]

**UL LISTED 146A**

**CAUTION:**  
DO NOT MIX  
MODEL TD,  
D OR H PIPE.

It is improper and could cause poor chimney performance and/or damage to the structure if flue gas carrying components (pipe sections) of Metlvent Model TD, D or H chimney systems were mixed. These components are tested and listed by U.L. Inc. to distinctively different high temperature criteria. Those accessories that are interchangeable are labeled as such.

**CAUTION**  
**PROTECT YOUR LIFE AND PROPERTY!**

**HEED INSTRUCTIONS AND THESE WARNINGS BEFORE YOU INSTALL OR USE METLVENT<sup>®</sup> FACTORY-BUILT CHIMNEY PIPE AND FITTINGS. FAILURE TO DO SO MAY CAUSE FIRE AND POSSIBLE LOSS OF LIFE.**

**Installation**

- Read Metlvent Instructions. *Connector pipe* is single wall pipe; *Metlvent factory-built chimney* is double wall, insulated, stainless steel, or galvanized and stainless steel pipe.
- Check and follow all local building codes and the appliance manufacturer's instructions.
- Use *connector pipe* only to make connection between the appliance and the chimney, running it through an open, accessible space. NEVER enclose *connector pipe* or use it as a chimney to install through ceilings or walls or in inaccessible or enclosed areas.
- Maintain these minimum air spaces between pipe and walls or other materials that can burn:  
Connector pipe — 18"      Metlvent all-fuel chimney — 2"  
(Where walls are protected by non-combustible material, see instructions for allowable *connector pipe* clearances).
- Enclose (with 2" minimum air space) any *chimney* passing through rooms, closets or other accessible spaces to avoid accidental contact with materials or things that can burn. Do *not* insulate.

**DO NOT INSULATE AROUND ANY PORTION OF CONNECTOR PIPE, CHIMNEY OR FITTINGS.**

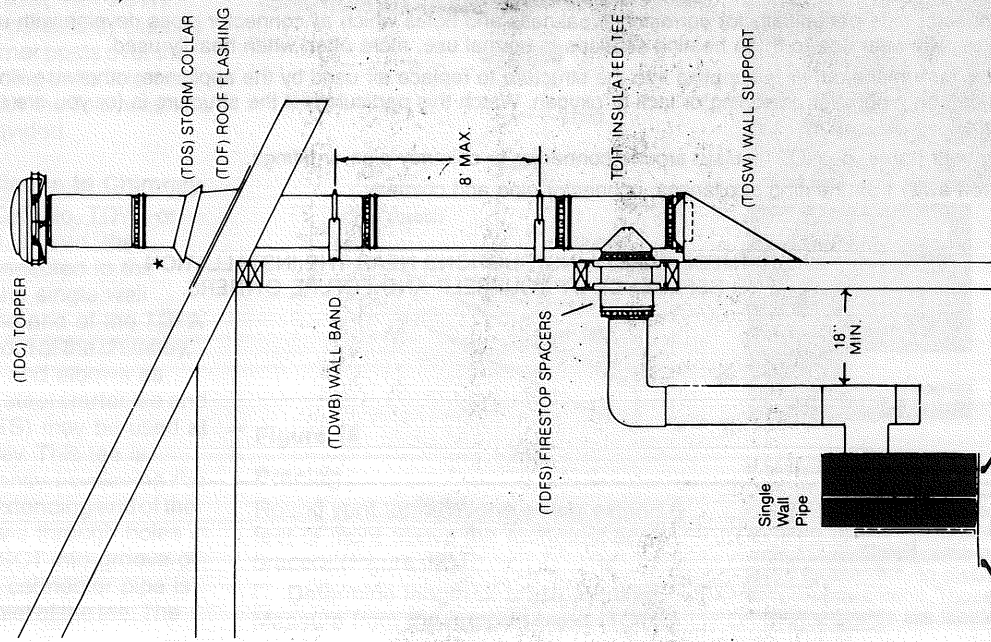
- If appliance has a back discharge, use a tee with cap, not an elbow, to connect appliance to vertical connector pipe.
- Avoid upside-down installation of connector or chimney pipe. (Metlvent *factory-built chimney*—arrow points UP.)
- Use firestop spacer whenever chimney passes through floor/ceiling/wall except where the chimney support assembly is used.
- Never use connector pipe or chimney pipe merely to vent an appliance through a wall or window; the connector pipe must always be connected to and vented thru a chimney terminating above the roof to avoid risk of carbon monoxide poisoning.
- The chimney must be capped and clear roof opening by at least 3 feet vertically and should be at least 2 feet higher than any portion of the building within a 10 foot horizontal distance. (See figure under preliminary planning)
- Keep electrical wiring away from connector pipe or chimney.
- When installing or replacing connector pipe, make sure the entire chimney is in safe operating condition. Inspect and correct chimney for obstructions, creosote or other deposits.

**Operation**

- Follow appliance manufacturer's instructions.
- Never let fire get too hot. Normal flue gas temperature should not exceed 1,000°F. If connector pipe glows, fire is too hot. Shut draft.
- Never operate appliance if ashpit door is open. Flue gas temperature could exceed 1000°F.
- If a flue fire starts, close all appliance openings—draft door, secondary air openings, etc. and call your Fire Department.
- Keep wood, carpet, furniture, and all other things that burn *at least* 18" from appliance and connector pipe, *at least* 2" from chimney pipe.
- Any stove or furnace with combustion air blower *MUST* have a chimney temperature limit control with a blower shut-off at a maximum temperature of 1,000°F. Temperature limits of chimney may be exceeded without proper controls.
- Inspect monthly the inside flue passage from appliance to chimney cap for creosote or other deposits, obstructions or damage; clean or replace as necessary. Burn vigorously daily for at least 30 minutes to help reevaporate creosote. (Creosote deposits can ignite and cause dangerous chimney fires. See instructions.)
- Inspect connector pipe periodically for corrosion, weakness and holes which *all* connector pipes develop with use. Replace as necessary, usually after one to three heating seasons in normal use, more often when heavily used.
- Always make sure make-up air is supplied into the structure to replace air used by the appliance; otherwise illness or death can result from carbon monoxide poisoning or lack of oxygen. Watch this particularly if the structure is (or you are about to make it) "weathertight."
- If insulating your home, do NOT insulate around connector or chimney pipe or fittings.
- Warn children away from heating appliances, connector pipe and chimney.

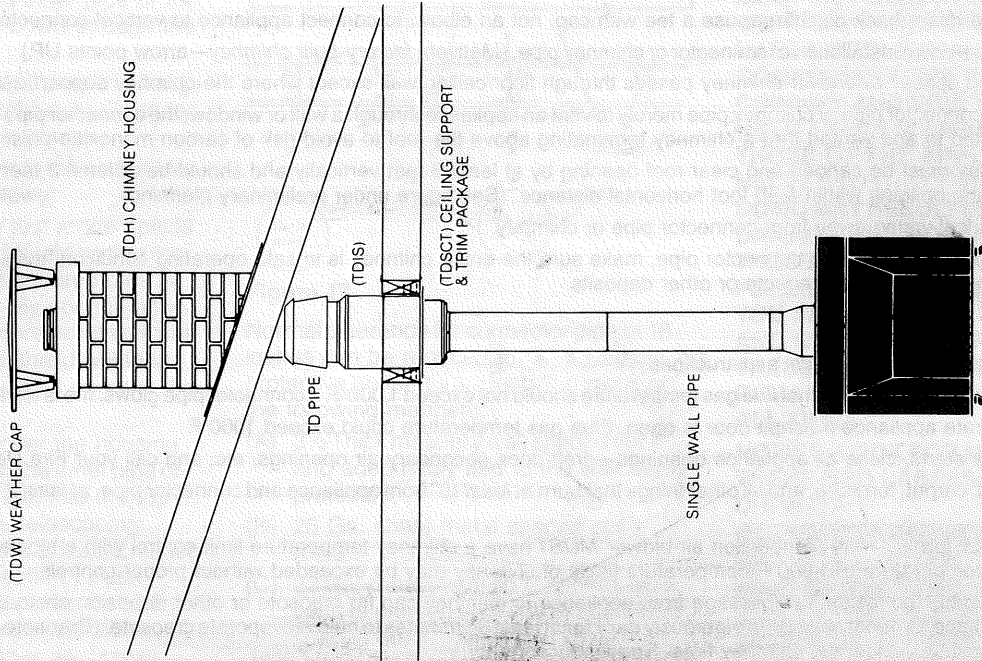
POST THESE SAFETY INSTRUCTIONS NEAR THE INSTALLATION  
FOR REFERENCE BY YOURSELF AND FUTURE OWNERS.

**WALL SUPPORT**

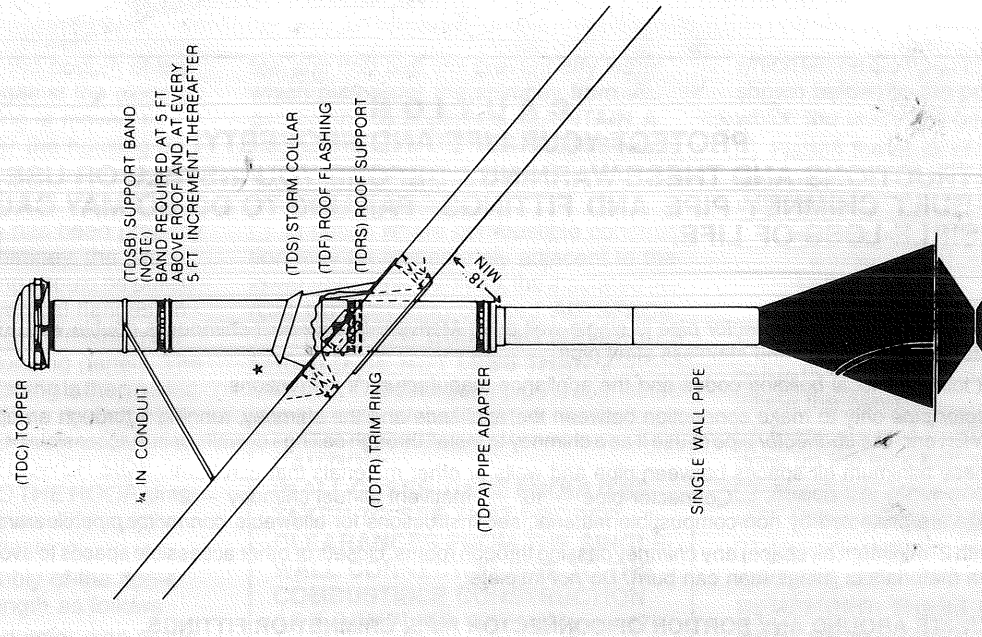


\* USE METLVENT SEALER OR EQUAL

**CEILING SUPPORT**



**ROOF SUPPORT**



\* USE METLVENT SEALER OR EQUAL