



INSTALLATION AND OPERATION
INSTRUCTIONS FOR
DURA-CHIMNEY (DC SERIES)
10", 12", 14", AND 16" DIAMETERS



MH7399

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

Read through all these instructions before beginning your installation. Failure to install the chimney as described in these instructions will void the manufacturer's warranty and may have an effect on your home-owner's insurance and UL listing status. Keep these instructions for future reference.

CLEARANCE: Allow at least a **2-inch clearance** between Dura-Chimney and any combustible materials. Where the chimney passes through floors, joists, or ceilings, **Firestop Radiation Shields, Support Boxes, and Close Clearance Shields** may permit reduced clearances as established by these parts, or spacers built on to these parts. Never fill any required clearance space with insulation or any other materials. Combustible materials include lumber plywood, sheetrock, plaster and lath, furniture, curtains, electrical wiring and building insulation of all kinds. Keep single wall stovepipe at least **18 inches** away from combustible materials, unless a clearance reduction system that is acceptable to the authority having jurisdiction is used, or the appliance to be installed is listed and the instructions specify a different clearance.

PERMITS: Contact your local Building Official or Fire Official regarding permits, restrictions, and installation inspections in your area.

DURA-CHIMNEY APPLICATIONS:

Use Dura-Chimney with fireplaces, furnaces, boilers, water heaters, stoves, ranges, or other residential-type appliances fueled by oil, coal, gas, or wood. Do not use with forced draft positive-pressure appliances. Dura-Chimney is designed to extend vertically with a maximum of one offset of 30° (offset and

return). Dura-chimney is listed for continuous flue gas temperatures of 1000 F, 1400 F for one hour, and 1700 F for ten minutes. Dura-Chimney is listed and produced under the factory Inspection and Follow-Up Program of Underwriter's Laboratories, Inc. (UL).

TOOLS AND MATERIALS YOU MAY NEED

Hammer	Tin snips
Non-Hardening Waterproof Mastic	Tape Measure
Drill	8-penny Nails
Caulking Gun	5/15 x 3 inch Lag Screws
Saber or Keyhole Saw	Roofing Nails
Level	3/4" Galvanized Electrical
Plumb Bob	Conduit (if chimney
High Temp Mastic	extends 4 feet or more
	above the roof)

SAFETY EQUIPMENT

- Dependable Ladder
- Eye Protection
- Proper Gloves and Shoes

INSTALLATION NOTES: Proper planning for your Dura-Chimney installation will result in greater safety, efficiency, and convenience, as well as saving time and money. Use only authorized Dura-Chimney listed parts. Do not mix and match with other products or improvised solutions. Do not install damaged chimney parts. Practice good workmanship. Sloppy work could jeopardize your chimney's safety. Keep electrical wiring and insulation away from all chimneys and stovepipes.

CHIMNEY DIAMETER: Follow the appliance manufacturer's instructions to determine chimney diameter and clearances between combustibles and your heating appliance. Never choose a chimney with an inside diameter that is smaller than the appliance's flue gas outlet. To calculate the chimney's outside diameter, add 5 inches to the inside diameter.

CHIMNEY HEIGHT: The National Fire Protection Association Standard #211 states: "Chimneys shall extend at least 3 feet above the highest point where they pass through the roof, and at least 2 feet higher than any portion of a building within ten feet." See [Figure 1](#). Chimneys that are over

30 feet high, and are supported by a **Support Box**, must also be supported by an **Elbow Strap** at least every 30 feet. This generally accomplished where the chimney passes through a roof. Dura-Chimney can be installed up to 50 feet high. If the chimney extends more than 4 feet, an **Extended Roof Bracket** must be used.

CHIMNEY PLACEMENT: When deciding upon the location of your chimney, minimize the alteration and reframing of structural components of the building.

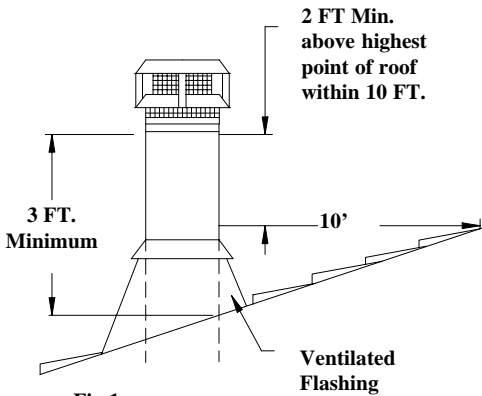


Fig 1

CHIMNEY ENCLOSURE REQUIREMENTS:

1. Through Rooms: Chimneys passing through occupied spaces, including closets, must be enclosed to prevent contact with, or damage to the chimney.

2. Cold Climates: In cold climates, chimneys that are mounted on an outside wall should be enclosed. This reduces condensation and creosote

formation, as well as enhancing the draft.

STOVE RECOMMENDATIONS:

1. Follow the stove manufacturer's instructions. The requirements below pertain to all stoves or other appliances installed with Dura-Chimney.
2. Chose a stove that is listed by a recognized testing laboratory and one which is appropriate to your needs. Do not get a larger stove than you need.
3. Install the stove and stovepipe as described in the stove manufacturer's instructions. Maintain all required clearances.
4. Connect only one solid-fuel appliance per chimney.
5. Follow the stove manufacturer's instructions and safety manual for maximum efficiency and safety. Do not overfire, as this can damage the stove and stovepipe. Not all stoves are equipped to burn coal. Coal with a low sulfur content will reduce the possibility of corrosion. Do not burn driftwood, plastic, or chemically treated wood such as railroad ties. They are corrosive

to your stove, stovepipe, and chimney.

6. If you are installing in a mobile home, install only a stove or appliance which is specifically listed for mobile homes. Please read the stove manufacturer's installation instructions and safety manual carefully. Regulations concerning the installation of appliances, construction, and safety standards for mobile homes are governed by the Department of Housing and Urban Development, Washington, D.C.

DURA-CHIMNEY PARTS (DC) ONLY

DCP	Chimney Sections, 24-inch, 36-inch
DCE	Elbows (15° and 30°)
DCF	Ventilated Flashing
DCTF	Ventilated Flat Roof Flashing
DCS	Flat Ceiling Support Box
DCC	Chimney Cap
DCAP	Anchor Plate
DCIS	Insulation Shield
DCFR	Firestop Radiation Shield
DCSC	Storm Collar
DCWS	Wall Strap
DCES	Elbow Strap
DCERB	Extended Roof Bracket
DCRS	Roof Shields

STEP-BY-STEP DIRECTIONS

There are two general types of Dura-Chimney installations:

1. Ceiling supported
2. Masonry Fireplace

Review the Step-by-Step Directions before beginning your installation.

CEILING SUPPORTED

1. **Place Appliance:** Position the appliance according to the manufacturer's instructions.
2. **Frame Support Opening:** Drop a plumb bob to the center of the appliance's flue outlet, and mark this center point on the ceiling. Refer to [Table 1](#) for specific framing and clearance dimensions. Mark the appropriate lines around the center point, and cut a square hole in the ceiling. Frame the

TABLE 1			
SUPPORT BOX FRAMING			
CHIMNEY INSIDE DIAMETER	12 IN.	14 IN.	16 IN.
INSIDE DIMENSIONS OF FRAMED OPENING	21 IN.	23 IN.	25 IN.
FIRESTOP RADIATION SHIELD AND ATTIC INSULATION SHIELD FRAMING			
CHIMNEY INSIDE DIAMETER	12 IN.	14 IN.	16 IN.
INSIDE DIMENSIONS OF FRAMED OPENING	21 IN.	23 IN.	25 IN.

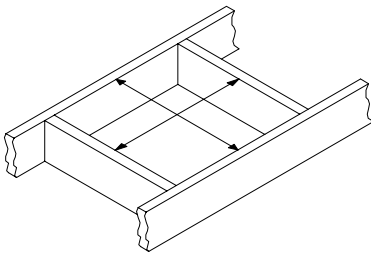


Fig 2

Maintain the minimum clearances as specified in Table 1. If the chimney passes through ceilings without a **Support Box**, nail the **Firestop Radiation Shield** to the bottom of the framed ceiling opening, using at least (2) 8-penny nails per side, as shown in Fig. 4.

5. Elbows and Offsets: Avoid offsets if possible. If offsets are required to get around rafters, ridgepoles, or joists,

use only one pair of 15 degree or 30 degree elbows. Do not exceed (2) 24 inch pipe sections between elbows. Refer to Fig. 7, for details of elbow installation. Plan where the elbows will be, but do not actually assemble them at this time.

6. Cut Roof Opening: Cut an opening in the roof directly above the opening

opening as shown in Fig. 2.

3. Install Support: Slip the **Support Box** into the framed opening from below, as shown in Fig. 3. Nail it to the framing using at least (2) 8-penny nails per side. Insure that the **Support Box** protrudes at least **2 inches** below the finished ceiling.

4. Install Firestop Radiation Shield(s): If the Chimney passes through additional floors or ceilings, install **Firestop Radiation Shields**. Where the chimney passes into an attic, install a **Firestop Radiation Shield** and an **Attic Insulation Shield**. Frame the opening for the **Firestop Radiation Shield** as shown in Fig. 2. Locate each opening by dropping a plumb bob to the four corners of the opening below.

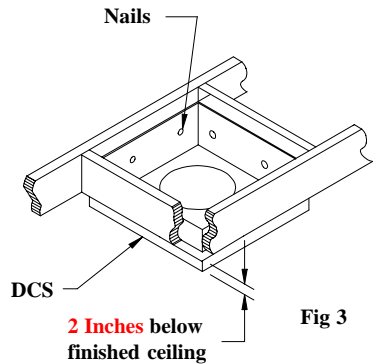


Fig 3

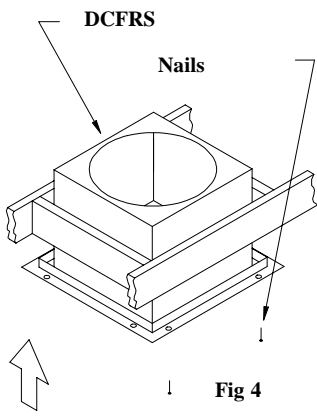


Fig 4



Fig 5

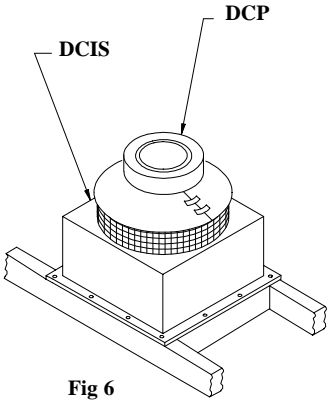
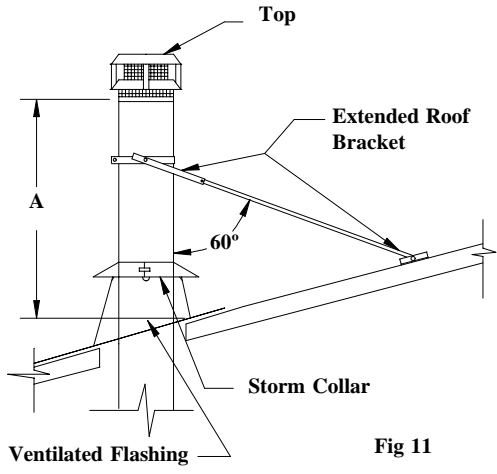
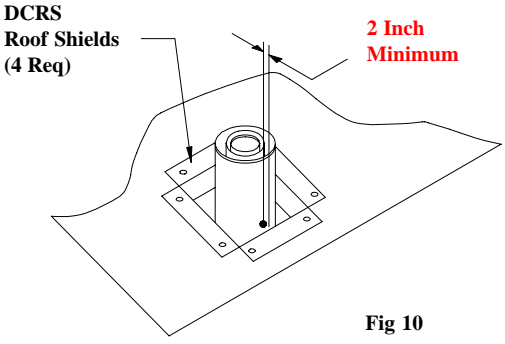


Fig 6

below, and at least 4 inches larger than the chimney's outside diameter, so as to provide at least a **2 inch clearance** all around the chimney. Refer to Fig. 5.

7. Assemble Chimney Sections: Lower and seat the end of the first **Chimney Section** down into the **Support Box**. The arrows on the Chimney Sections must point up. Each section's inner liner must line up. The 12 inch sections and elbows are joined with a twist lock, which requires 1/8 turn to seat. Sheet metal screws are optional with 12 inch chimney. Should the installer elect screws, use (4) #8 sheet metal screws equally spaced around the joint. It is necessary to drill 1/8-inch diameter holes in the outer liner for these screws. 14-inch and 16-inch diameter Chimney Sections and Elbows are not joined with a twist lock, but simply join together and are held by sheet metal screws. Again, drill 1/8 inch diameter holes and use (4) #8 sheet metal screws, equally spaced. Under no circumstances, penetrate the intermediate or inner liner with the drill holes or screws. Elbows are joined in the same fashion.

8. Install Attic Insulation Shield: Install the **Attic Insulation Shield** where the chimney passes through the attic to keep debris and insulation from getting too close to the chimney. Continue to assemble pipe sections until at least 18 inches of chimney extends above the **Firestop Radiation Shield**. Slip the **Insulation Shield** over the **Chimney Section** and nail it to top of



Note: If Dimension "A" is greater than 4 Feet, an Extended Roof Bracket must be used

per chimney system, with a maximum of (2) 24 inch **Chimney Sections** between **Elbows**. Make the offset as shown in Fig. 7. Temporary support may be required during this phase. Should the total length of the **Chimney Sections** between **Elbows** exceed 3 feet, install a second **Elbow Strap** around the center of the **Chimney Sections**. Do not add more **Chimney Sections** until the **Elbows** are supported.

10. Install Flashing: In new constructions, assemble the **Chimney Sections** to a height of 2 feet above the roof; then slip the **Flashing** over the chimney. On an existing roof, center and install the **Flashing** before extending the chimney above the roof. Allow space to permit sliding the next **Chimney Section** up through the **Flashing**. Insure the

chimney remains vertical and that at least a 2-inch clearance to combustibles is maintained all around. Nail **Flashing** to the roof along the upper edge, and to 4 inches below the upper edge on each side of the roof **Flashing**. Do not nail the bottom, or below the upper half of the sides. Seal all the nail heads with a non-hardening waterproof mastic. On flat or tarred and graveled roofs, nail and seal the **Flat Roof Flashing** on all sides with roofing compound.

Refer to [Fig. 8](#).

11. Whether the attic is open or enclosed, **Ventilated Flashing** must be used. If the attic is open, use an **Attic Insulation Shield** to keep insulation and debris away from the chimney, however, if an enclosure is constructed, no shield is required. Refer to [Figure 9](#). In addition, if an enclosure is constructed, a rectangular opening must be cut in the roof, and **Roof Shields** must be used to protect the joists as shown in [Fig. 10](#). Insure **2 inches minimum clearance** between the chimney and **Roof Shields** on all sides.

12. Storm Collar and Top: Apply non-hardening mastic where the **Storm Collar** will meet the chimney above the **Flashing**. Slip the **Storm Collar** down over the chimney to the top of the **Flashing**. Tighten and seal against the mastic. Also, run a small bead of mastic along the vertical seam of the exposed portion of the **Chimney Pipe**. Attach the **Chimney Cap** to the top of the chimney.

13. Extended Roof Bracket: If the chimney extends more than 4 feet above the roofline, an **Extended Roof Bracket** must be used. Install as shown in [Fig. 11](#). The thin wall electrical conduit to connect the roof brackets with the band is not furnished by Dura-Vent, and must be locally obtained. Flatten the ends of the conduit, and drill 5/16 inch diameter holes in order to connect the braces to the **Brackets** and the **Band**. Connect with 1/4 inch diameter bolts.

14. Final Inspection: This concludes the installation procedures for ceiling supported installations. Review these instructions, as well as the appliance manufacturer's instructions, and conduct an inspection of the installation to insure that all connections are secure, the system is properly supported, and that good workmanship techniques were employed throughout. Again, check all clearances between the chimney pipe and combustible surfaces, to insure that the **minimum of 2 inches** is met.

MASONRY FIREPLACE

This portion of the instruction manual is written for two basic masonry configurations.

(1) The new masonry fireplace exist as a separate entity, and it is desired to use a metal chimney, as opposed to continuing with a masonry chimney.

(2) The masonry fireplace and chimney exists as one entity, however the masonry has been damaged, or eroded, and it is desired to remove the

damaged masonry, and transition to a metal chimney.

STEP-BY-STEP PROCEDURES FOR CONFIGURATION (1)

1. Determine Flue Size: The size of the front opening in the fireplace and the chimney height determine the flue diameter. Enter Table 2 with the width and height of the fireplace opening in inches, and the chimney height in feet, to determine the flue size. The dotted lines in **Table 2** illustrate a sample

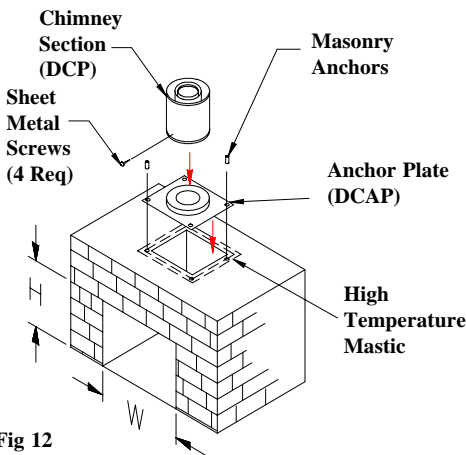
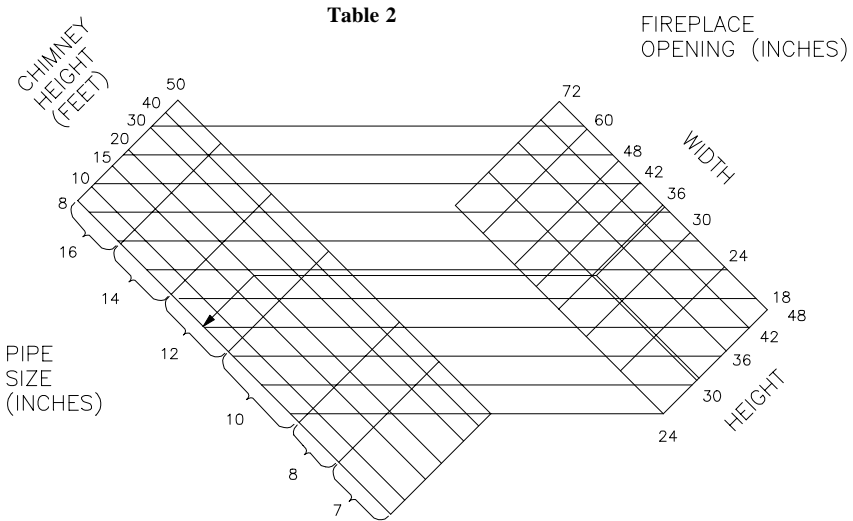


Fig 12

problem, with an opening of 36 inches wide, 30 inches high, and a 20 foot chimney height. The correct flue diameter in the sample problem is 12 inches.

2. Attach Anchor Plate: Mount the **Anchor Plate** as shown in Fig.12, using masonry anchors, 3/8-inch diameter bolts, and a high temperature mastic. Insure that it is level.

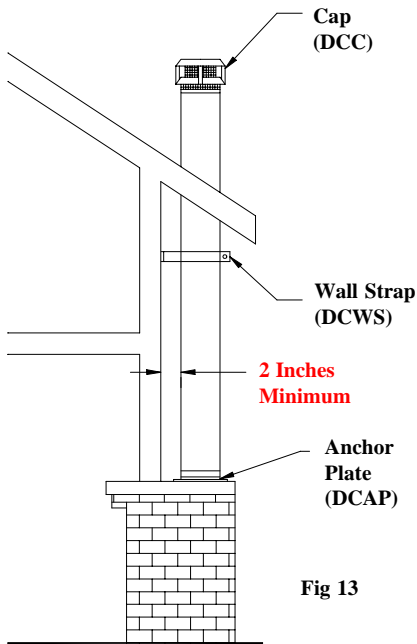


Fig 13

3. Assemble Chimney Sections:

Assemble the **Chimney Sections** as described in [Step 7](#) for ceiling supported installations in this instruction set. Use **Wall Bands** as shown in Fig. 13. Install one **Wall Band** at each 4 foot increment of rise along the wall. Slip the **Wall Bands** around the chimney, tighten the bolts, and fasten the **Bands** to the wall, using two 5/16 inch, 3-inch long lag screws. If it is necessary to go through eaves, insure that a **2 inch minimum clearance** is maintained, as shown in Fig.14. An enclosure such as shown in [Fig. 18](#) is highly recommended, especially in cold climates. The chase should be framed with conventional lumber, lined with 1/2-inch sheetrock,

and sheathed with exterior grade materials. Comply with the Local Building Codes when establishing clearances between masonry and combustibles. The residential Masonry Fireplace and Chimney Handbook, published by the Masonry Institute of America also contains guidance for clearances. A ventilated **Flat Roof Flashing** must be used at the chase top, if it will cover the entire top, and still permit a **2-inch clearance** between the chimney and combustible materials. It may be necessary to get a larger base locally fabricated for the **Flat Roof Flashing**, in order to cover the top of the chase. In either case, air spaces must be provided beneath the metal chase top, and the framing, as shown in [Figure 19](#). The spacers must be locally fabricated. The chimney must always extend at least 4

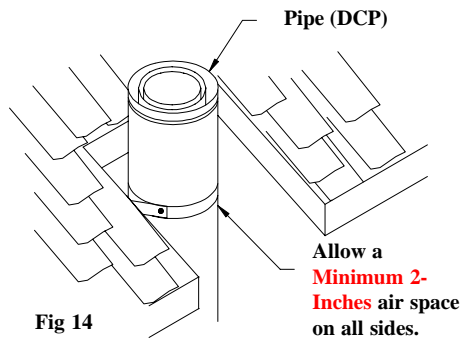


Fig 14

inches above the collar of the Flashing, and a Storm Collar and Cap should be installed as described in [Step 12](#), for ceiling supported installations.

4. This concludes the installation for Configuration (1). Conduct a final inspection of the job, as outlined in [Step 14](#) for ceiling-supported installation.

STEP-BY-STEP PROCEDURES FOR CONFIGURATION (2)

1. Contact a qualified Chimney Sweep, or local Building Official to inspect the chimney and determine the exact extent of the damage. If a building permit is required, it should be obtained at this time.

2. **Level Masonry:** Remove the damaged masonry, and level off the top, as shown in Figs 15 and 16, Do any required additional repairs to the chimney at this time. It is imperative that the remaining masonry be structurally sound, and in accordance with local codes, as well as sound building practice.

3. **Determine Flue Diameter:** Using [Table 2](#), as previously described for a masonry fireplace, determine the correct flue diameter.

4. **Determine Chimney Height:** Using the NFPA rule (as stated on [Page 2](#) of these instructions), computer the height of the chimney top above the roof. Calculate the number of 2-foot or 3-foot **Chimney Sections** required.

5. **Install Anchor Plate:** Install the correct **Anchor Plate (DCAP)** as described in [Step 3](#) for a masonry fireplace. Refer to [Fig. 17](#).

6. **Assemble Chimney Sections:** Assemble **Chimney Sections** as described in [Step 3](#) for a masonry fireplace. Refer to [Fig. 18](#)

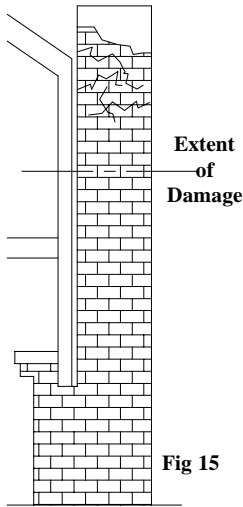


Fig 15

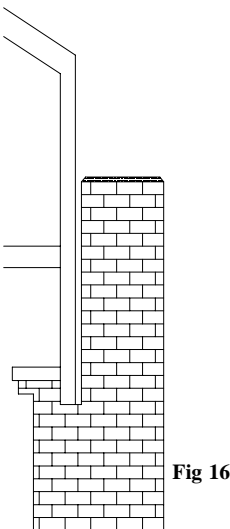


Fig 16

which shows a chase enclosure. Again, a chase enclosure is highly recommended in cold climates. Use **Wall Bands** and a **Cap**, as described in **Step 3** for the masonry fireplace. If an enclosure is constructed, the

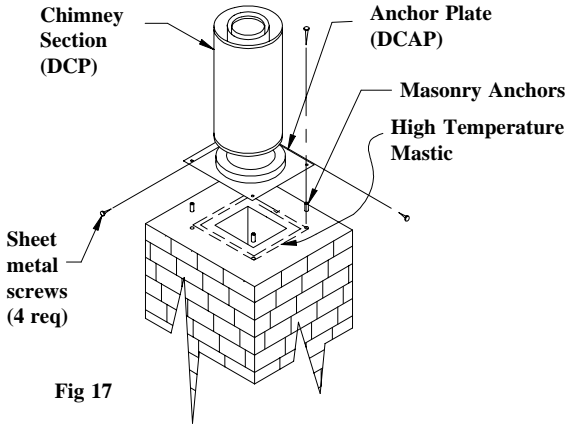


Fig 17

instructions from **Step 3**, for the masonry fireplace are also applicable. Insure that a **2-inch minimum clearance** to combustibles is maintained throughout the chimney system. The chase should be framed with conventional lumber, lined with 1/2-inch sheetrock, and sheathed with exterior grade materials. Comply with

Local Building Codes when establishing clearances between masonry and combustibles. The Residential Masonry Fireplace and Chimney Handbook,

published by the Masonry Institute of America also contains guidance for clearances. A ventilated **Flat Roof Flashing** must be used at the chase top, if it will cover the entire top, and still permit a **2-inch clearance** between the chimney and combustible materials. It may be necessary to get a larger base locally fabricated for the **Flat Roof Flashing**, in order to cover the top of the chase. In either case, air spaces must be provided beneath the metal chase top, and the framing as shown in

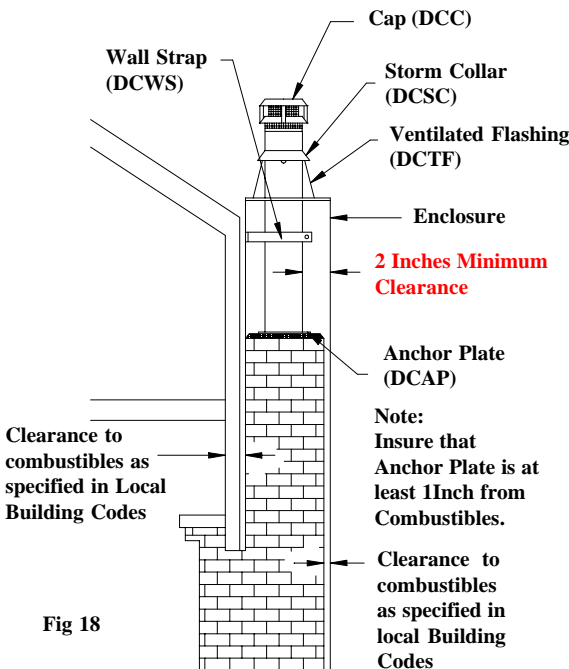


Fig 18

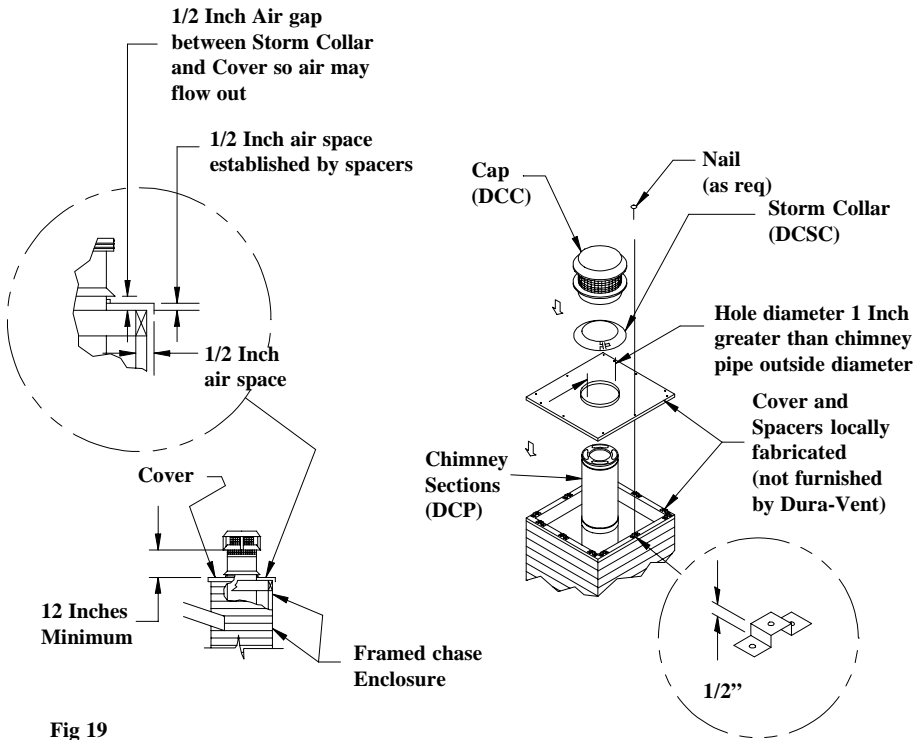


Fig 19

Figure 19. The spacers must be locally fabricated. The chimney must always extend at least 4 inches above the collar of the **Flashing**, and a **Storm Collar** and **Cap** should be installed as described in [Step 12](#), for ceiling supported installations.

7. Extended Roof Bracket: Should an enclosure not be used, and the **Chimney Sections** extend 4 feet or more above the roofline, an **Extended Roof Bracket** should be used, as shown in [Fig. 11](#), for the ceiling-supported installation.

8. This completes the installation to replace damaged masonry. Conduct a final inspection, and a review of these instructions.

CHIMNEY MAINTENANCE

1. Creosote and Soot: When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to produce 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.

2. Access: Chimneys must be installed so that access is provided for inspection and cleaning.

3. When to Clean: The chimney should be inspected at least once every month during the heating season to determine if creosote or soot has built up. Check the spark arrestor screens every 2 to 4 weeks. If creosote or soot has accumulated, it should be removed to reduce the risk of chimney fire.

4. How to Clean: Have your chimney cleaned by a professional chimney sweep if you have doubts about your ability to clean it. Use a plastic, wood, or steel brush. Do not use a brush that will scratch the stainless steel liner of your chimney. Scrub the spark arrestor with a wire brush. To remove the **Chimney Cap** for cleaning, unscrew the screws that attach the cap to the top **Pipe Section**.

5. Coal: To reduce corrosion in chimneys where coal is burned, clean the chimney thoroughly within 48 hours of shutting down the stove for the season.

6. Chemical Cleaners: Use chemical cleaners only as a last resort, and use only those which the manufacturer specifically warrants as being non-corrosive to the chimney liner. Simpson Dura-Vent will assume no liability for damage resulting from the use of chemical cleaners.

7. In Case of Fire: If a flue fire occurs, close all appliance draft openings, and call your Fire Department. Do not use the chimney again, until it has been inspected for possible damage.

8. Painting: To increase chimney life, coat all exterior metal parts, with the exception of the Chimney Cap with high temperature, rust proof paint. Wash the metal with a vinegar and water solution before painting.

9. Creosote Formation: Simpson Dura-Vent assumes no liability for structural damage or roof contamination as the result of creosote formation. It is the owner's responsibility to comply with inspection and cleaning requirements as described in these instructions.

10. Warranty: Simpson Dura-Vent warrants Dura-Plus components for a period of 25 Years from the date of installation. The warranty includes all components except chimney tops, which are warranted for 5 years. For specific details, refer to the printed warranty included in the Chimney Product Catalog.

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Other products made by Simpson Dura-Vent:

Dura-Plus Chimney

Dura-Vent Gas Vent (B-Vent)

Dura-Black Single Wall Stovepipe

Dura/Liner Masonry Reliner

DVL Close Clearance Connector Pipe

Dura/Connect Single-Wall Connector for
B-Vent

Dura-Flex Masonry Reliner for Gas Appliances

Designer Series Accessories

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