

INSTALLATION INSTRUCTIONS



All-Fuel Chimney System
5" to 8" diameter

DURATECH

COMPLETE VENTING SOLUTIONS

SIMPSON

Dura-Vent

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

NOTE:

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

Dear Customer, Installer, or End User:

I welcome any comments regarding matters pertaining to our Simpson Dura-Vent products. I welcome any ideas, input or complaints and I'll make sure that someone responds directly back to you.

Send your emails to:
president@duravent.com

If you are searching for tech support or product information, please phone us at 800-835-4429.

Or email us at:
techsupport@duravent.com

Sincerely,
Steve Eberhard, President and CEO
Simpson Dura-Vent Co., Inc.

MH7399



All-Fuel Chimney System, 5" to 8" diameter

DURATECH

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CLEARANCES

Always allow at least a 2-inch clearance between DuraTech Chimney Pipe and any combustible materials. 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. 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.

DURATECH CHIMNEY APPLICATIONS

DuraTech Chimney is a complete chimney system tested and listed to UL 103 HT for the United States, and ULC S604 in Canada. In the U.S., DuraTech Chimney can be used with wood stoves, fireplaces, fireboxes, furnaces, boilers, water heaters, stoves, ranges, or other residential-type appliances fueled by oil, gas, coal, or wood, that require a UL103 HT chimney system. In Canada, DuraTech can be used with oil & gas fired appliances listed for use with a Type A Chimney, in accordance with ULC S604 . DuraTech is also listed for use in Canada with some factory-built fireplaces; check with your fireplace manufacturer. Otherwise, DuraTech has not been approved for use with solid fuel appliances in Canada. DuraTech Chimney is available in 5", 6", 7" & 8" diameters (UL 103 HT Rated), as well as

10", 12", 14" & 16" diameters (UL 103 Rated). Do not use with forced draft, positive-pressure appliances. The DuraTech Chimney system may have a maximum of two (2) offsets (four elbows total) of 30° from vertical. DuraTech Chimney is listed under UL Re-examination Service Number MH7399.

EQUIPMENT & MATERIALS

Hammer	Drill
Caulking Gun	Plumb Bob
Screwdrivers	Tin Snips
(Phillips & Standard)	
Saber or Keyhole Saw	Level
Dependable Ladder	Tape Measure
Proper Gloves and Shoes	Eye Protection

Materials You May Need:

500°F RTV Silicone Sealant
8 Penny Nails
#8, 2-1/2" & 1-1/2" Wood Screws
Roofing Nails

INSTALLATION NOTES

Proper planning for your DuraTech Chimney installation will result in greater safety, efficiency, and convenience, as well as saving time and money. You must use only authorized DuraTech Chimney parts to maintain a listed Chimney system (not including the connector pipe). Do not mix parts or try to match with other products, or use improvised solutions. Do not install damaged or modified parts. **Table 1** lists the authorized DuraTech Chimney components. Practice good workmanship. Sloppy work could jeopardize your chimney's safety. Keep electrical wiring and insulation away from all chimneys and stovepipes. If you have any questions, be sure to contact either your dealer or Simpson Dura-Vent directly.

DuraTech Chimney Components	
6", 12", 18", 24", 36", 48" pipe sections	Firestop Radiation Shield
Elbow with swivel	Attic Insulation Shield
Tee with Tee Cap	Elbow Strap
Adjustable Tee Support Bracket	Adjustable Wall Strap
Chimney Cap	Anchor Plate
Round Ceiling Support Box	Extended Roof Bracket
Trim collars for Round Support Boxes	Adjustable Roof Flashing
Square Ceiling Support Box	Chase Top Flashing
Flat Ceiling Support Box	Flat Roof Flashing
Roof Support	Storm Collar
Trim collar for Roof Support	Transistion Anchor Plate
Wall Thimble	Base Tee and Double Base Tee
Finishing Collar	Firestop
Reduced Clearance Support Box	

Table 1

CHIMNEY DIAMETER

Follow the appliance manufacturer's instructions to determine chimney diameter and clearances between combustible materials and your heating appliance. Never choose a chimney with an inside diameter smaller than your appliance's outlet. To calculate the chimney's outside diameter, add 2 inches to the inside diameter.

CHIMNEY HEIGHT

The National Fire Protection Association Standard #211 states: "Chimneys shall extend at least three feet above the highest point where it passes through the roof of a building, and at least two feet higher than any portion of a building within ten feet." (**Fig 1**) DuraTech Chimney may be installed up to 60 feet high. If the chimney extends more than 5 feet above the roof, an Extended Roof Bracket must be

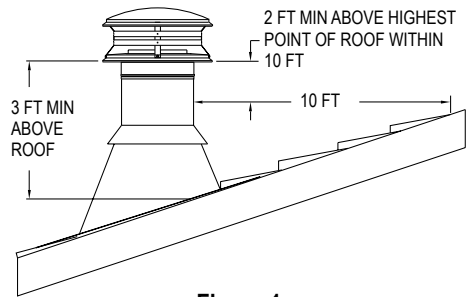


Figure 1

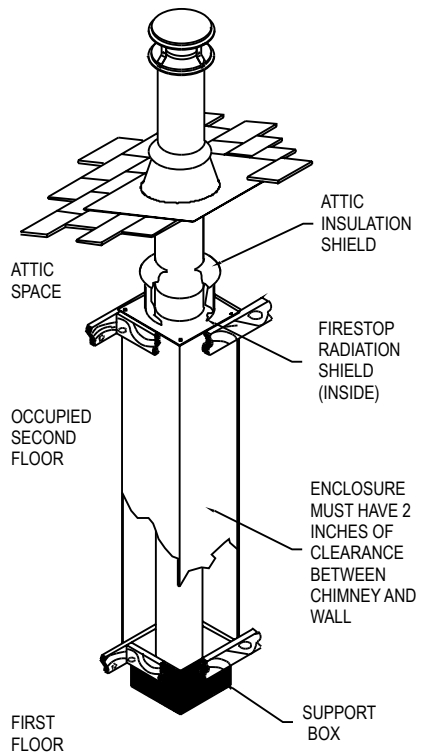


Figure 2

used (see page 12). Due to the overlap of the joints, subtract 1-1/4 inches from each Chimney Section's height to calculate installed height.

CHIMNEY PLACEMENT

When deciding the location of your chimney, try to avoid modifications to roof beams and other structural components of the building.

CHIMNEY ENCLOSURE REQUIREMENTS

Through Rooms: Interior chimneys shall be enclosed where they extend through closets, storage areas, occupied spaces, or anyplace where the surface of the chimney could be contacted by persons or combustible materials. Maintain at least a 2-inch air space between the outer wall of the chimney and the enclosure (*Fig 2*).

Multi-Story: Consult local building codes for requirements in your area. In the U.S., the National Fire Protection Association Standard #211 states: "Factory-built chimneys that pass through floors of buildings requiring the protection of vertical openings shall be enclosed with approved walls having a fire resistance rating of not less than one hour when such chimneys are located in a building less than 4 stories in height, and not less than 2 hours when such chimneys are located in a building more than 4 stories in height." In Canada, except in single-family and two-family dwellings, chimneys which extend through another story must have an enclosure with a fire resistance rating equal to or greater than that of the floor or roof assembly through which they pass.

Cold Climates: In cold climates, chimneys mounted on an outside wall should be enclosed in a chase. Exterior chases reduce condensation and creosote formation, and enhance draft. Include an access door by the Tee Cap for chimney cleaning (*Refer to Fig 23*).

STOVE RECOMMENDATIONS

Follow the stove manufacturer's instructions. The requirements stated below pertain to all stoves or other appliances installed with DuraTech Chimney systems.

Choice: Choose an appliance that is listed by a recognized testing laboratory, is appropriate for your needs, and is not larger than required.

Installation: Once the chimney system is in place, install the stovepipe to connect the appliance to the chimney as described in the appliance manufacturer's instructions. Be sure to maintain all required clearances.

Flues: Connect only one solid fuel appliance per chimney.

Operation: Follow the appliance manufacturer's instructions for maximum efficiency and safety. Overfiring can damage the appliance, stovepipe and chimney.

Fuels: Do not burn driftwood, plastic, or chemically treated wood such as railroad ties. They are corrosive to your appliance, stovepipe and chimney. Follow the appliance manufacturer's instructions and safety manual in regards to fuels. Not all appliances are equipped to burn coal. Coal with a low sulfur content will reduce the possibility of corrosion. **Mobile Homes:** Please read the appliance manufacturer's instructions and safety manual carefully. Not all appliances are listed for use in mobile homes.

STEP-BY-STEP DIRECTIONS

There are five general types of DuraTech Chimney installations:

- 1.Ceiling-supported
- 2.Roof-supported
- 3.Tee-supported (through-the-wall)
- 4.Masonry Fireplace
- 5.Zero-Clearance 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. The flue outlet collar should be placed between the rafters or joists above, if possible.
- 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 2** for specific framing and clearance dimensions. Mark appropriate cutting lines around the center point. Cut a square hole in the ceiling for the Support Box. Frame a level, square opening centered over the hole which you have cut. (**Figures 3 and 4**).

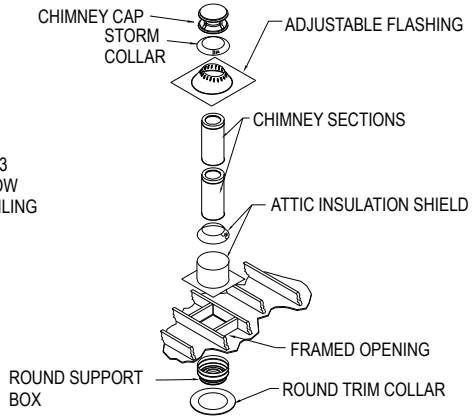
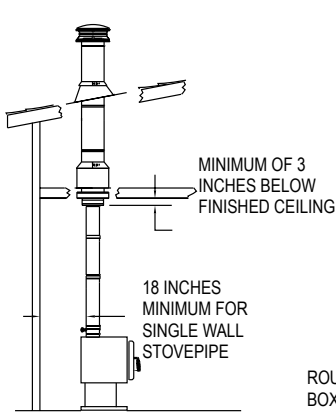


Figure 3

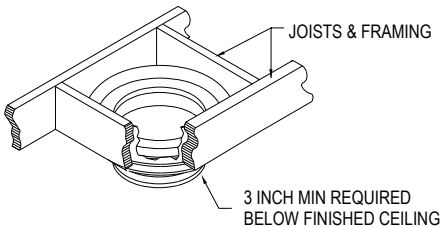


Figure 4

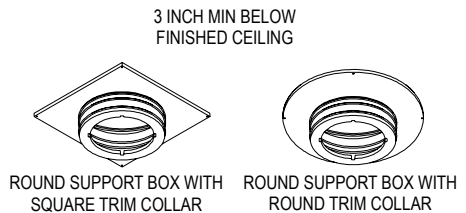


Figure 5

- 3. Install Support Box:** For installation into a flat ceiling, there is the option of the Round Support Box, the Flat Ceiling Support Box, the Square Ceiling Support Box, Reduced Clearance Support Box, or the CAS Ceiling Support. The CAS Ceiling Support is only used when installing the CAS system. Refer to the DuraTech CAS Installation Instructions for directions on how to install the remainder of the Combustion Air System.. The Flat Ceiling Support Box is primarily used for Oil Appliances and comes unpainted. For the Square Ceiling Support Box, Reduced Clearance Support Box, and the CAS Ceiling

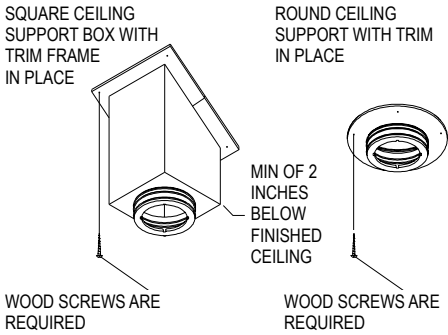


Figure 6

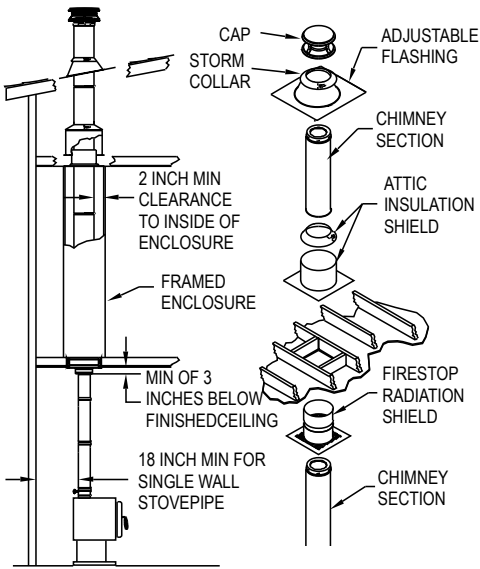


Figure 7

Support, refer to the Square ceiling installation below. The Round Ceiling Support Box has the option of a square or round Trim Collar available (Fig 5). The bottom of the Round Support Box must extend at least 3 inches below the finished ceiling. Level the Support Box and secure it to the framing using at least three 8-penny nails per side (min. of 12 total). Alternatively, you may use 1-1/2" #8 wood screws (min. of 12 total), instead of nails.

Next, secure the Trim Collar (round or square) to the framing members using the (4) 1" long, round-head wood screws provided (Fig 6). For installation into a cathedral ceiling, you must use the Square Ceiling Support Box or Reduced Clearance Support Box (or the CAS Ceiling Support if installing the CAS system) and the two-piece Trim. The bottom of the square portion of the Support Box must be a minimum of 2-inches lower (round portion is an additional 3 inches lower) than the finished ceiling at the lowest side of the penetration (Fig 5 & 6). Level the Support Box and secure it to the framing using at least three (3) 8-penny nails per side (minimum of 12 nails total), or a minimum of (3) #8, 1-1/2" wood screws. Adjust the overlapping "U-shaped" Trim pieces so they cover the Support Box, and secure them to the framing members using the (6) 1-1/4" long, round head wood screws provided (see Fig 6).

4. Frame Openings: Frame openings in each ceiling or floor above the Support Box (Fig 7). These openings are to hold the Firestop Radiation Shield and Attic Insulation Shield. Locate each opening by dropping a plumb bob to the four corners of the opening below. Maintain the framing dimensions as specified in Table 2.

Warning: other than the framing for the Reduced Clearance Support Box, any combustible materials around the chimney must still meet the minimum 2" clearance requirement. If Elbows must be used to avoid an obstruction, refer to the Offset Elbow Installation section.

5. Cut Roof Opening: Cut an opening in the roof directly above the opening below, and at least 4 inches larger than the chimney's outside diameter to provide at least a 2-inch clearance all around the chimney. The chimney must be centered within this

Framing Dimensions				
Chimney Diameter				
DURATECH COMPONENT	5"	6"	7"	8"
CATHEDRAL CEILING SUPPORT BOX	11-1/4"	12-1/4"	13-1/4"	14-1/2"
FLAT CEILING SUPPORT BOX	11-1/4"	12-1/4"	13-1/4"	14-1/2"
ROUND CEILING SUPPORT BOX	11-1/4"	12-1/4"	13-1/4"	14-1/4"
FIRESTOP RADIATION SHIELD	11-1/4"	12-1/4"	13-1/4"	14-1/4"
WALL THIMBLE	11-1/4"	12-1/4"	13-1/4"	14-1/4"
CAS CEILING SUPPORT	NA	12-1/4"	NA	14-1/2"
CAS WALL THIMBLE	NA	12-1/4"	NA	14-1/4"
REDUCED CLEARANCE SUPPORT BOX	NA	10-1/4"	NA	NA

Table 2

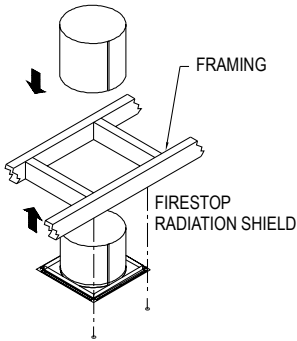


Figure 8

opening and maintain the 2-inch clearance to combustibles.

6. Install Firestop Radiation Shield: A Firestop Radiation Shield is required in multistory installations at each floor penetration

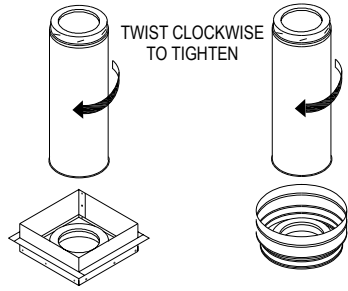


Figure 9

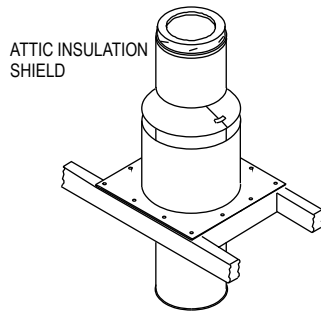


Figure 10

above that where the Support Box is located. Example: in a multistory home where the appliance is on the ground floor (Support Box is in the 1st floor ceiling), you would need a Firestop Radiation Shield at the 2nd floor ceiling, and at the 3rd floor ceiling, etc., including where the chimney penetrates into the attic. **Figure 7** shows a typical 2-story installation with an attic.

Note: a Firestop Radiation Shield is not installed where the chimney penetrates through the roof. The Firestop Radiation Shield is installed on the underside of the ceiling/floor framing, with the cylindrical “tube” portion of the shield pointing upward. (**Fig 8**). Use a minimum of either (1) 8 penny nail or (1) #8, 1-1/2” wood screws per corner. Refer to **Table 2** for framing requirements.

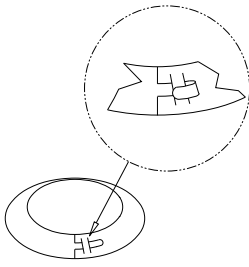


Figure 11

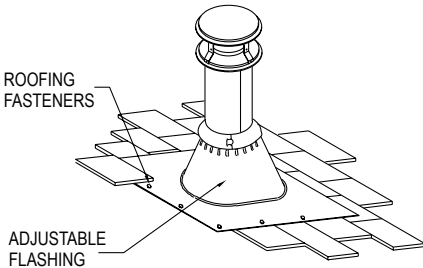


Figure 12

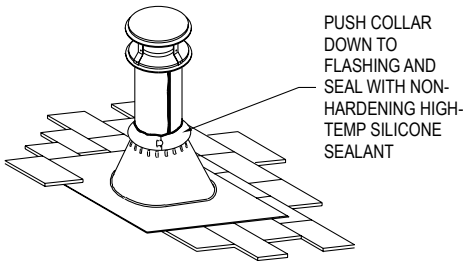


Figure 13

7. Assemble Chimney Sections: Lower the female end of the first Chimney Section in the Support Box (**Fig 9**). It will twist-lock clockwise onto the male end of the Support Box. Turn Pipe Sections firmly clockwise to lock them together. Sheet metal screws are not required, but they may be used to reinforce the connection, if desired. Use only 1/2" (or shorter) sheet metal screws. Do not penetrate the inner liner of the chimney.

8. Install Attic Insulation Shield: The Attic Insulation Shield is required where the chimney passes into an attic. Its purpose is to prevent debris and insulation from getting too close to the chimney (**Fig 10**). An installed Attic Insulation Shield is 15 inches high. In attic areas where this shield cannot fit, you must enclose the attic portion of the chimney in a framed enclosure. If the chimney is fully enclosed through the attic, an Attic Insulation Shield is not required. If the chimney passes into the attic, install the Attic Insulation Shield as follows:

- a. If the Firestop Radiation Shield extends above the attic floor, no modifications are necessary. The Firestop Radiation Shield will fit inside the Attic Insulation Shield.
 - b. Assemble Chimney Sections until at least 18 inches of chimney extends above the Firestop Radiation Shield.
 - c. Extend the Firestop Radiation Shield tube extension (keep at least 1" overlap), and secure in place using sheet metal screws.
 - d. Slip the Attic Insulation Shield over the Chimney and Firestop Radiation Shield until the base sits squarely on the framed opening (**Fig 7 & 10**).
 - e. Secure the Attic Insulation Shield to the top of the framed opening using at least (3) 8-penny nails or (3) #8, 1-1/2" wood screws per side (**Fig 10**).
 - f. Wrap the Collar of the Attic Insulation Shield around the chimney and fasten it loosely. Slide the Collar down to meet the Attic Insulation Shield. Slip the tab through the adjacent slot and fold it back to tighten and secure the Collar (**Fig 11**).
- 9. Attach Flashing:** In new construction, assemble the Chimney Sections to a point 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. Always insure the chimney remains vertical (use a level), and that at least a 2-inch clearance to combustible materials is maintained all around. Install the upper edge of the Flashing under the roofing. Nail to the roof along the upper edge and down each side with 1-inch roofing nails. Do not nail the lower edge of the Flashing (**Fig 12**). Seal top and upper sides of flashing with roofing compound or sealant. Be sure to follow local building practices, as needed. Seal all nail heads with a non-hardening waterproof sealant. On flat or tarred and graveled roofs, nail and seal the Flat Roof Flashing to the roof on all sides with roofing compound. Do not put screws through the Flashing into the Chimney Pipe.

10. Finish Top: Apply a high-temperature (500°F), non-hardening waterproof sealant around the chimney at the point where the Storm Collar will meet the chimney just above the Flashing. (**Figures 12 and 13**). Slide the Storm Collar down over the chimney to the top of the Flashing. Tighten and seal the Storm Collar against the sealant. After installing sufficient Chimney Sections to meet the height requirement (**Fig 1**), attach the Chimney Cap onto the top of the chimney by holding the collar of the cap and twist locking it clockwise onto the chimney. Do not hold upper portion of the cap and twist, as this may damage the cap. The Chimney Cap can be removed for chimney cleaning as described in the Chimney Maintenance section of the instructions. Use an Extended Roof Bracket if the chimney extends more than 5 feet above the roof. (**Figures 16 & 17 in the Extended Roof Bracket section**). If you are located in heavy snow country, it is recommended that a Snow Splitter be installed. The Snow Splitter can be purchased from Simpson Dura-Vent

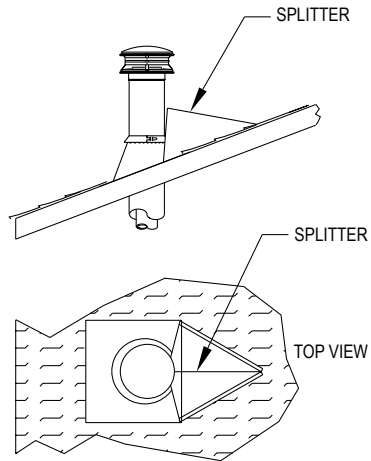


Figure 14

or fabricated locally from heavy gauge sheet metal (**Fig 14**). This will protect the chimney by routing the snow around it.

11. Enclosures: Enclose chimneys where they pass through occupied spaces, including closets. Always maintain at least a 2 inch clearance between the chimney and any combustible materials. Interior enclosures may be constructed with standard framing and sheathed with sheetrock or plywood. Use Wall Straps as needed to maintain a minimum of 2 inches of air space between the chimney and combustible materials.

OFFSET ELBOW INSTALLATION

Elbows are manufactured in 15° and 30° angles measured from the vertical. A 30° Elbow is the largest that can be used in an offset. A 30° Elbow may not be combined with a 15° Elbow to make a 45° offset. Avoid Elbows if possible, since a totally vertical chimney is more efficient. When Elbows are necessary to avoid obstructions such as rafters, ridgepoles, or joists, use no more than

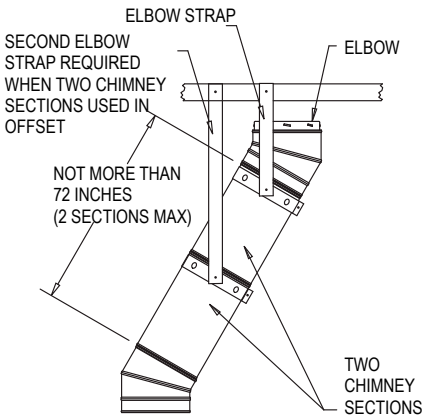
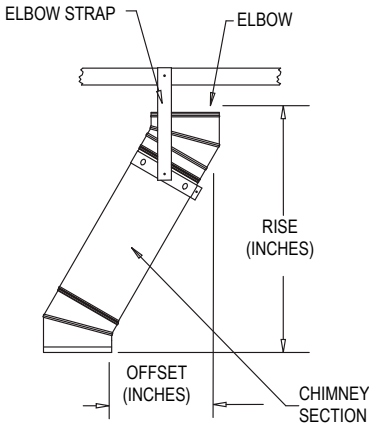


Figure 15

2 pairs of Elbows in any one chimney system.

1. Attach Elbows: Attach Elbow to Chimney Section or other Elbow by twisting clockwise until they lock firmly. Attach one Elbow to the Chimney Section below, and align it for the offset. Elbows for DuraTech have a swivel feature that allow for 360° rotation at their base for ease of installation. Refer to **Table 3** to determine the required offset length and attach an appropriate length (or lengths) of Chimney Section(s) above the Elbow. **Important:** For each chimney pipe section in the offset (between the elbows), there must be an Elbow

Strap, Tee Support, or similar support method to support the weight of the pipe and to relieve stress on the Elbows. Attach the second Elbow above the Chimney Section to complete the offset (**Fig 15**).

2. Secure Offset: Place the Elbow Strap's band around the angled portion of the top Elbow, then tighten the nut and bolt until the clamp is firm. Wrap the Elbow Strap end over an adjacent joist or rafter and secure it with at

Elbow Angle from Vertical	Chimney Length Between Elbows	Offset Inches	Rise Inches
15"	0"	2"	16 1/2"
15"	6"	3 1/4"	21 1/4"
15"	12"	4 3/4"	27"
15"	18"	6 1/4"	32 3/4"
15"	24"	8"	38 1/2"
15"	36"	11"	50 1/4"
15"	48"	14 1/4"	61 3/4"
15"	48" + 6"	15 1/2"	66 1/2"
15"	48" + 12"	17"	72 1/4"
15"	48" + 18"	18 1/2"	78"
15"	48" + 24"	20"	83 3/4"
30"	0"	4"	15 3/4"
30"	6"	6 1/4"	
30"	12"	9 1/4"	25 1/4"
30"	18"	12 1/4"	30 1/4"
30"	24"	15 1/4"	35 1/2"
30"	36"	21 1/4"	46"
30"	48"	27 1/4"	56 1/4"
30"	48" + 6"	29 3/4"	60 1/2"
30"	48" + 12"	32 3/4"	65 3/4"
30"	48" + 18"	35 3/4"	71"
30"	48" + 24"	38 3/4"	76"

Table 3

least (2) 8-penny nails or (2) #8, 1-1/2 screws. Do not add more Chimney Sections until the Elbows are supported. Be sure that the chimney remains vertical. If there is more than one Chimney Section between the Elbows, install a second Elbow Strap around the joint of the two Chimney Sections (**Fig 15**).

EXTENDED ROOF BRACKET INSTALLATION

If the chimney extends more than 5 feet above the roofline, an Extended Roof Bracket must be installed at every 5-foot increment of chimney height above the roofline, leaving no more than 5 feet of chimney extending above the last pipe bracket. The Extended Roof Bracket consists of the Pipe Band, the Adjustable Legs, and the Roof Brackets.

- 1. Mount Pipe Band:** Slip the Pipe Band around the chimney and secure by tightening the nut and bolt.
- 2. Attach the Legs:** The Adjustable Legs of the assembly will adjust from 67" to 114". Secure one end of each Leg to the Pipe Band using the nuts and bolts included (2 per Leg). Position the Adjustable legs so they form approximately a 60° angle with the chimney, and with each other (**Figures 16 and 17**). Be sure that there is at least 3" of overlap between the top and bottom halves of the Adjustable Leg. In order to secure Legs in proper position, there is a hole provided in the outer leg where the outer and inner halves overlap. Use a 1/4" drill bit to drill through the inner leg at that location. Use the nut & bolt provided to pin the Adjustable Legs in position.
- 3. Install Roof Brackets:** Mount the two Roof Brackets where each of the Adjustable Legs meets the roof, using (4) 1" roofing nails or screws per bracket. Seal the nail heads carefully with a non-hardening, waterproof sealant. Attach the bottom end of the

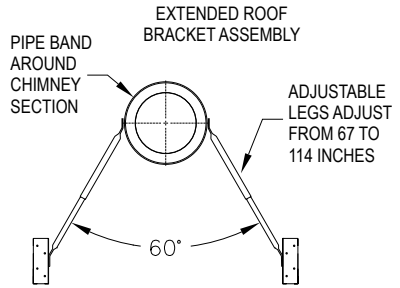


Figure 16

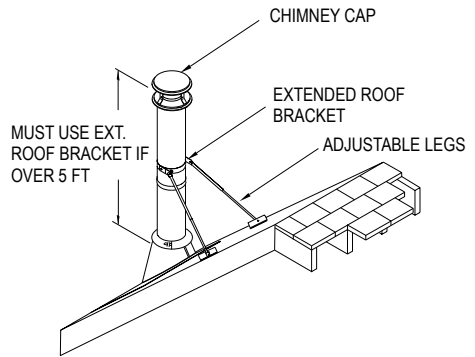


Figure 17

Adjustable Legs to the Roof Brackets using the nuts & bolts provided.

ROOF SUPPORTED INSTALLATIONS

There are two types of Roof Supported Installations: (1) Using a Square Ceiling Support Box, Reduced Clearance Support Box, or CAS Ceiling Support; and (2) Using a Roof Support.

- (1) For a Square Ceiling Support Box, Reduced Clearance Support Box, or CAS Ceiling Support installation, make sure that the square box portion of the Support Box can extend at least 2" below the low side of the finished ceiling (**Fig 19**). If the CAS Ceiling Support is used, refer to the DuraTech CAS

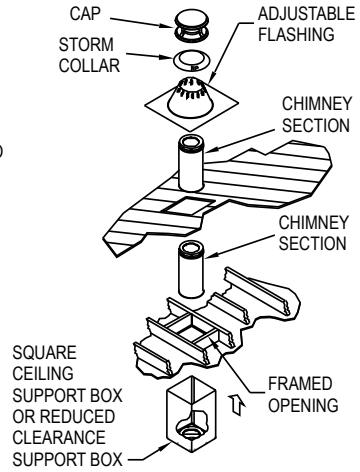
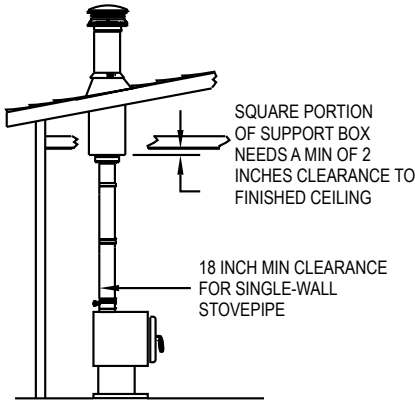


Figure 18

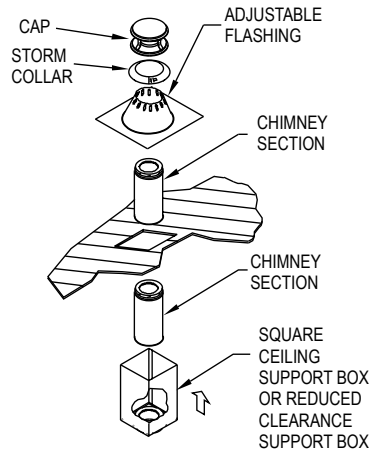
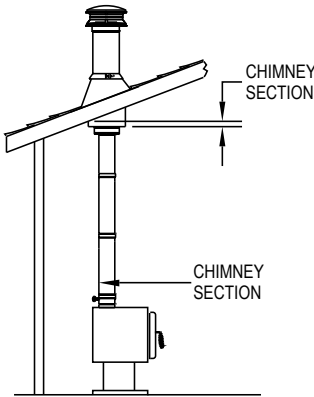


Figure 19

Installation Instructions for directions on how to install the remainder of the Combustible Air System. The Support Box must remain level, and the top edge of the box must cover the edge of the roof's decking material. Square Ceiling Support Boxes are available in 11-inch, 24-inch, and 36-inch heights. The Reduced Clearance Support Box is available in 24" length for 6" diameter chimney only. Mobile

home chimney installations are roof supported. Do **not** seal openings in flashing.

1. Place Appliance: Place the appliance in its proper location, referring to the manufacturer's instructions as to allowable distances from combustibles, etc.

2. Cut Openings: Cut a roof opening in your desired location, just as in a Ceiling-Supported Installation (Steps 1 through 5). If a separate

ceiling and roof exists, as shown in **Figure 18** (Low Attic), first cut and frame a ceiling opening as described in Ceiling-Supported Installations (**Step 2**). Refer to **Table 2** for clearance and framing specifications. If it is desired to install through a cathedral ceiling (**Fig 19**), then the hole is cut in the roof.

3. Install Support Box: Slip the Square Support Box, Reduced Clearance Support Box, or the CAS Ceiling Support into the framed opening so the square portion projects at least 2 inches below the finished ceiling and rafters (bottom of round portion is 5" below), and extends above the ceiling to framing or decking materials to which it can be nailed. Level the Support Box, and slit the corners to the roofline where they extend beyond it. Bend the flaps (created by the slitting) flush with the roof, and nail the Support Box to the roof or framing with at least three (3) 8-penny nails, or (3) 1-1/2", #8 screws, per side (**Fig 20**). Be sure to keep the Support Box level. Screw the trim sections into the ceiling (**Fig 6**).

4. Complete Installation: Refer to Steps 7, 9 & 10 in the Ceiling Supported Installation section to complete the Roof Supported installation.

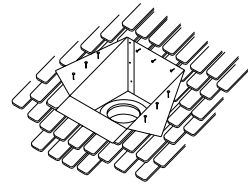


Figure 20

(2) A Roof Support is also used in installations where there is a cathedral ceiling, and a Square Ceiling Support is not desired. The Roof Support allows the DuraTech chimney to come down into the room below the level of the ceiling (**Fig 21**). The Roof Support can support a maximum of 45 feet of DuraTech Chimney total, and maximum of 20 feet below the support. If a taller stack of DuraTech Chimney is required, you must use a Square Ceiling Support Box instead.

1. Cut and frame opening to provide a minimum 2" clearance on all sides of the chimney pipe. Note: Opening in finished ceiling should be covered by Trim Collar.

2. Bolt on the Roof Support Brackets to the Roof Support Band using the supplied

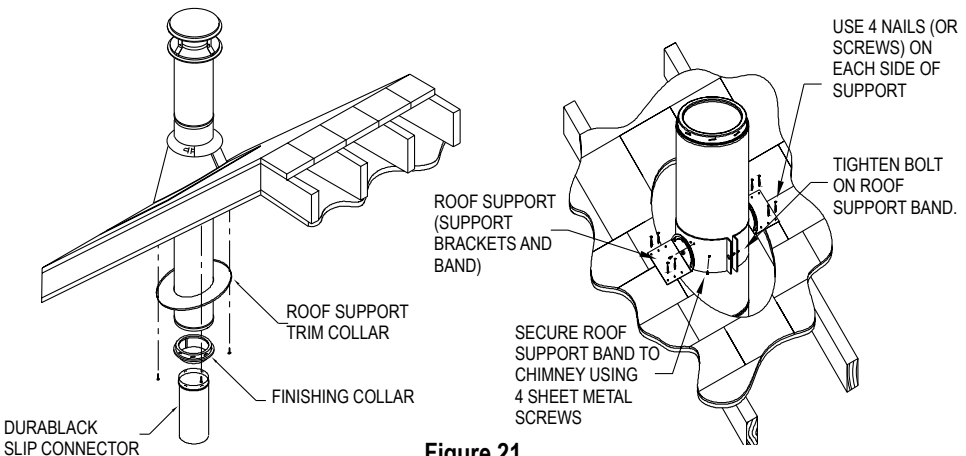


Figure 21

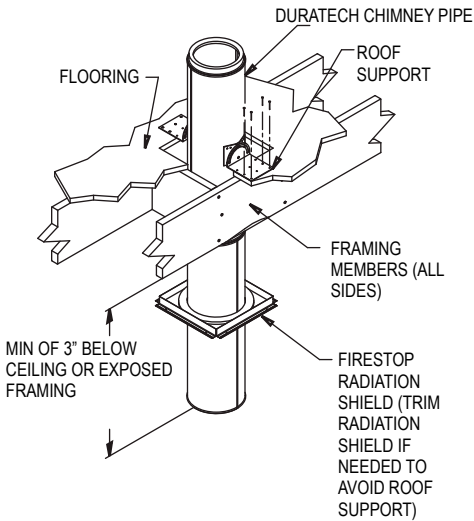


Figure 22

hardware. Attach the Roof Support Brackets to roof using (4) 8 penny nails or (4) #8, 1-1/2" screws per side (**Fig 21**).

3. Determine how much DuraTech Chimney will be extending into the room (minimum of 3" below the ceiling). Be sure to maintain the proper clearance to combustibles (walls and ceilings) for the connector pipe. Once you have identified the proper height for your installation, attach the of the Roof Support Band to the Chimney Section by tightening the Bolt, and secure it by using (4) supplied sheet metal screws.

4. Attach desired length of Chimney Sections above and below the roof level (max. of 45' total, 20' below the support). To transition to the Connector Pipe, attach the Finishing Collar by twist locking it to the bottom section of DuraTech Chimney.

5. Slide Trim Collar over the DuraTech Chimney and attach the Trim Collar to the ceiling using (4) 1-1/4" screws provided (**Fig 21**).

6. Refer to Steps 10 & 11 in the Ceiling

Supported Installation section to complete the Roof Supported installation.

Alternative Installation Location for Roof Support: The Roof Support may be used at the bottom of a Chimney installation (**Fig 22**). This may be useful for some basement installations. Maintain a minimum of 2" clearance to combustibles at all times. The DuraTech Chimney needs to extend a minimum of 3" below the finished ceiling or exposed framing members. Please note that you cannot extend the chimney all the way to the appliance - you must have some connector pipe.

1. Cut and frame opening to provide a minimum of 2" clearance on all sides of the chimney.

Be sure to maintain the proper clearance to combustibles for the connector pipe.

2. Bolt on the Roof Support Brackets to the Roof Support Band using the supplied hardware. Attach the Roof Support Brackets to floor using (4) 8 penny nails or (4) #8, 1-1/2" screws per side (**Fig 22**).

3. Determine how much DuraTech Chimney will be extending into the room (minimum of 3" below the framing), and attach the of the Roof Support Band to the Chimney Section by tightening the Bolt, and secure it by using (4) supplied sheet metal screws (**Fig 21 & 22**).

4. Install a Firestop Radiation Shield below the finished ceiling or framing members. Trim the 'tube' portion of the Firestop Radiation Shield

5. Follow steps 4, 5 & 6 for the Roof Support as needed if it interferes with the Roof Support Installation.

TEE-SUPPORTED INSTALLATIONS

Tee-Supported installations are used when passing through a wall to an outside chimney. The Tee Support can hold a maximum of 50-feet of DuraTech Chimney without the Tee

Support Straps, or 70-feet with use of Tee Support Straps. The Tee Support and Wall Straps are adjustable, allowing from 2" - 6" of clearance between the chimney and the wall, as needed to fit your installation. There are two options when installing a Tee-Supported installation: the Tee Support above the Tee, or the Tee Support below the Tee. The required parts and general configuration are as shown in **Figures 23, 24, 25 and 26**.

1. Place Appliance: Position the appliance according to the manufacturer's instructions. It is a good idea to try to position the appliance so it will allow the chimney to line up centered between studs.

2. Locate, Cut & Frame Opening: Determine the location where the chimney will pass through the wall. The chimney should pass through the wall, centered between two studs. The height of the penetration can be determined by positioning sections of stove pipe until you have the desired configuration (refer to the appliance manufacturer's installation instructions for restrictions on stove pipe). Cut and frame an opening in the inner and outer walls at this location. Refer to **Table 2** for the appropriate framing dimensions.

3. Install Wall Thimble: The Wall Thimble is two-piece component which includes the Interior half and the Exterior half. On the outside wall, install the back portion of the Wall Thimble. Center the back portion of the Wall Thimble (with shield inside wall) in the framed opening of the outside wall. Be sure to seal the flange of the Wall Thimble around the wall

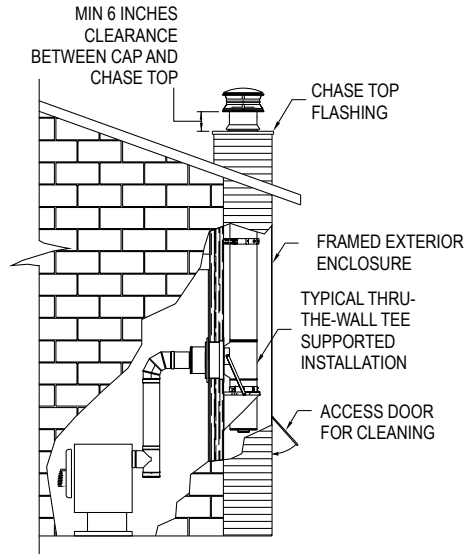


Figure 23

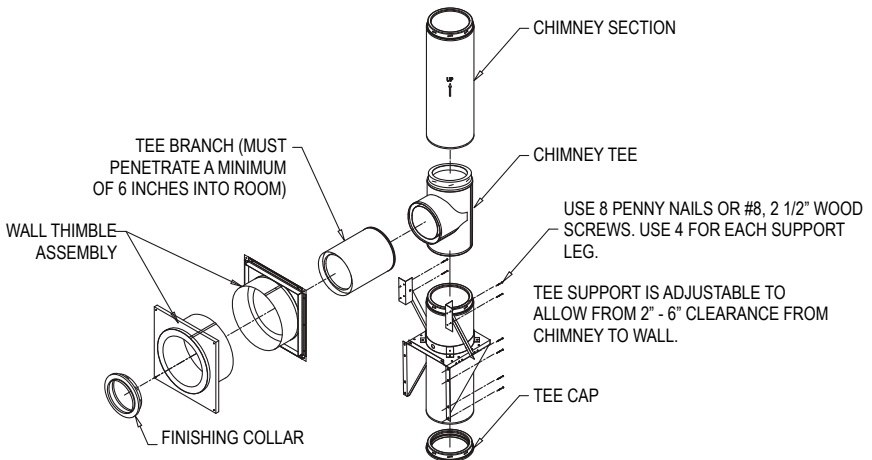


Figure 24

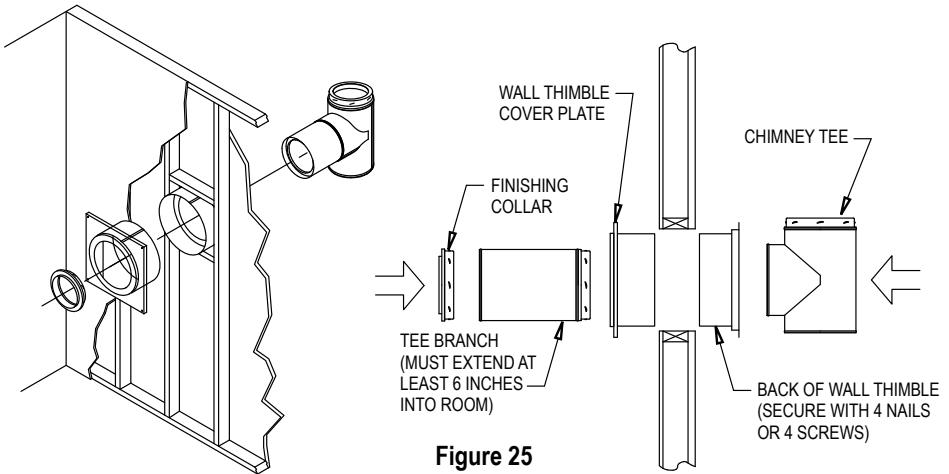


Figure 25

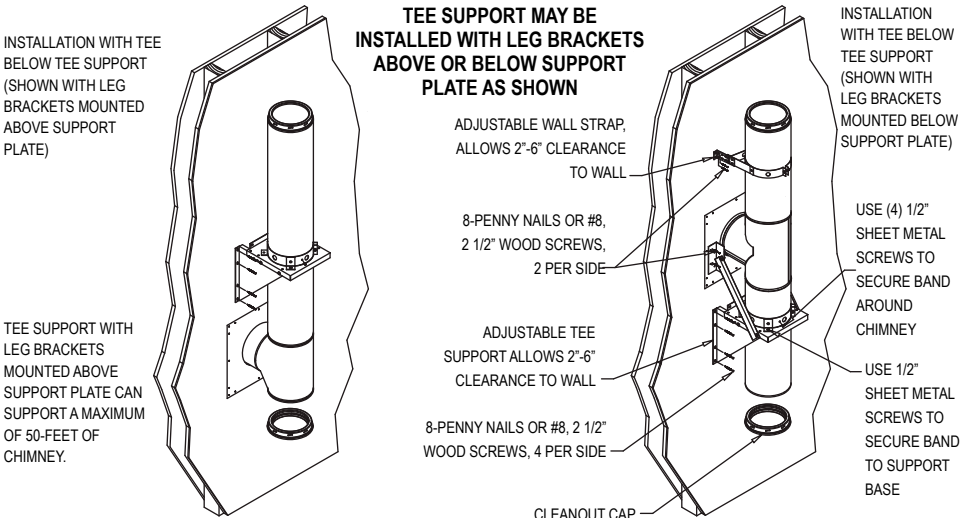


Figure 26

by using a non-hardening waterproof sealant. Attach the back portion of the Wall Thimble to the outside wall using at least (4) 8-penny nails or (4) #8, 1-1/2" wood screws. There must be a continuous shield within the wall. If the two halves of the Wall Thimble do not overlap, a field-fabricated extension constructed out of 26-gauge galvanized or stainless steel is needed.

4. Install Tee Support: Install the Tee Support on the outside wall. Position Tee Support so

that the chimney Tee will be centered inside the Wall Thimble (**Figs 24, 25, & 26**). The Tee Support may be installed either above the Tee or below the Tee (within one pipe section), as seen in **Figure 26**. The Tee Support can support up to 50-feet of chimney by itself, or up to 70-feet of chimney if the Tee Support Straps are used (**Fig 24, 26**). Important: Verify that Tee Support is level, and secure the leg brackets of the Tee Support to the wall using (4) #8, 2-1/2" screws for

each side. Slide support base over leg brackets to adjust for desired clearance to wall, and secure by tightening bolts. (Figs 26 & 27).

5. Install Tee and Cleanout Chimney

Section: Twist lock the Tee onto a desired length of Chimney to be used as the cleanout section. Use only one chimney section (any length) to attach to bottom of the Tee. Tighten support band around chimney section at proper height to insure that Tee is centered through Wall Thimble (Fig 25 & 26). Use the 1/2" sheet metal screws provided to insure a tight connection between support band and chimney section. Connect support band to support base using the 1/2" sheet metal screws provided (Fig 26). Twist lock Tee Cap into bottom of Chimney Cleanout section.

6. Install Branch onto Tee: From inside the house, attach the Chimney Branch up to 24" chimney section, depending on wall thickness, positioned horizontally used to pass through the wall) to the Tee by twist locking it clockwise. Important: The Chimney section used to penetrate through the wall must extend at least 6" into the room (Fig 25 & 27). Use high-temperature sealant (500°F) to seal between the Wall Thimble and the Chimney on the outer wall.

7. Install Cover Plate and Finishing Collar:

After the Chimney Branch is secured in place (penetrating at least 6" into the room), slide the Cover Plate over the Branch and attach it to the framing using (4) 1-1/4" long, round head wood screws. Be sure that the Branch is centered in the opening of the Cover Plate. Twist lock the Finishing Collar on to the female end of the Chimney Branch by twisting clockwise.

8. Complete Chimney: Attach the Chimney Sections as in Step 7 in the Ceiling Supported Installation section (page 9). Secure the

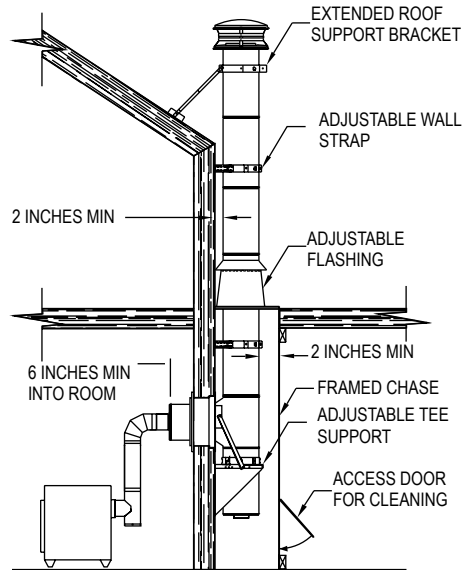


Figure 27

chimney to the wall with Wall Straps at a minimum of 8-foot intervals and maintain at least 2 inches of clearance to combustible materials. The Wall Straps are adjustable to allow from 2" - 6" clearance to combustibles. Slip the Wall Straps around the chimney, tighten the bolts, adjust the clearance, and fasten the Wall Straps to the wall with (4) #8, 1-1/2" long wood screws. Once the chimney is at the minimum height specified in Figure 1, attach the Chimney Cap onto the top of the chimney by holding it by the collar and twist locking it clockwise onto the Chimney Pipe. If the chimney penetrates an overhang, frame for at least 2 inches of clearance, and install Flashing and Storm Collar as described in Steps 9 & 10 for Ceiling Supported Installations (page 9). Another option is to cut away the overhang for a 2-inch clearance (Fig 28). If the chimney extends more than 5 feet above the top Wall Strap or Flashing, use an Extended Roof Support Bracket.

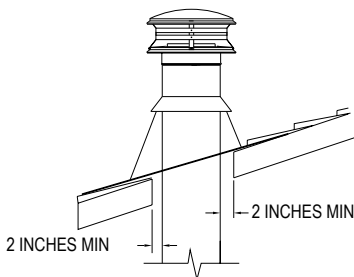
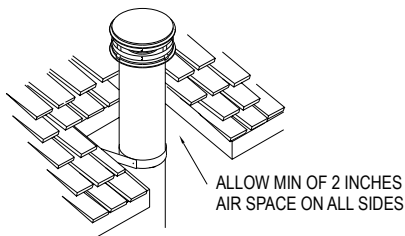


Figure 28

9. Install Chase Top Flashing: It is recommended that a Tee Supported Chimney be enclosed in a chase. If a chase enclosure has been constructed, you can either use a standard flat-roof flashing, or you can use a Chase Top Flashing. Using a Chase Top Flashing allows for a lower profile for the chimney. The Chase Top Flashing has an opening that is 3" larger in diameter than the DuraTech Chimney. If the Chase Top Flashing can fit over your chase enclosure as required (**Fig 29**) then install as directed, or trim as needed. However, if the Chase Top Flashing is smaller than your chase enclosure, you will need to provide a galvanized sheet capable of covering your chase and overhanging the sides by 1/2 - 3/4 inch. Attach the Chase Top Flashing to the galvanized sheet using appropriate sheet metal screws and non-hardening waterproof sealant. Use the Chase Top Flashing Spacers to allow the proper air-gap clearances on the galvanized sheet. The Chase Top Flashing Spacers are available to insure that the proper air-gap is maintained. **Figure 29**

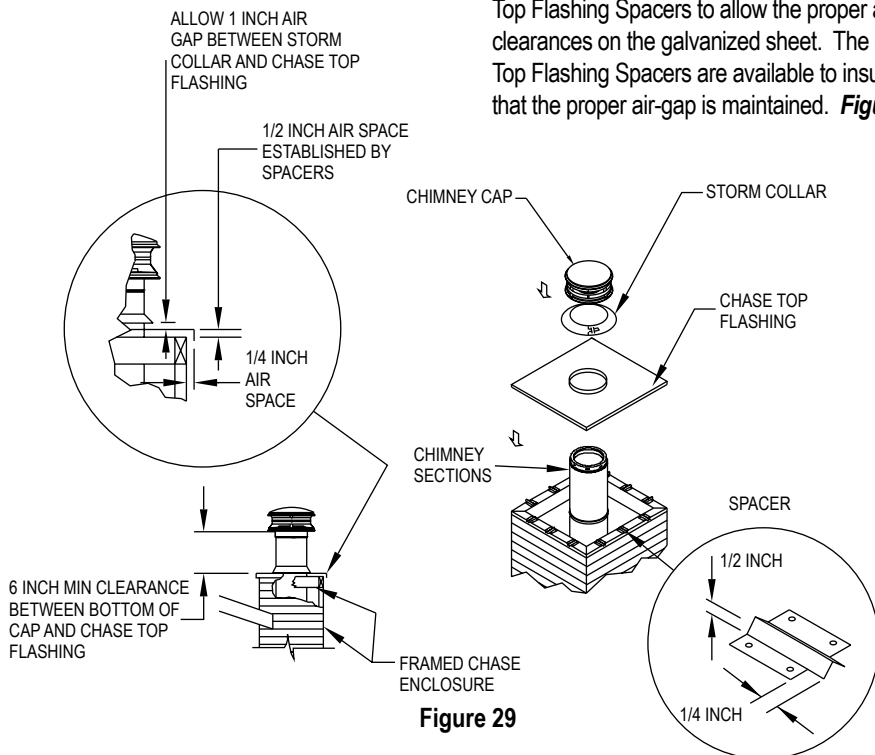


Figure 29

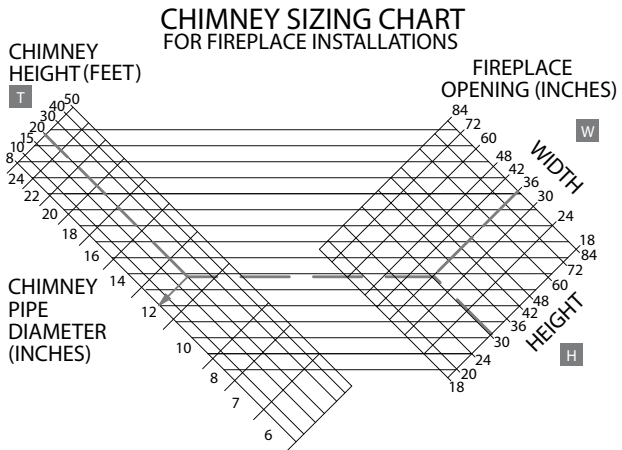
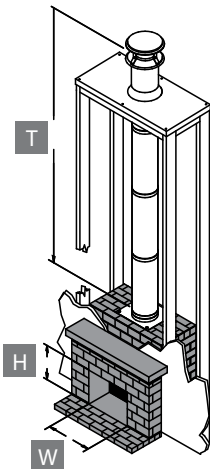
displays in some detail, how these air gaps are established using the Spacers and Chase Top Flashing. Secure the Chase Top Flashing to the chase using a sufficient number of #8, 1-1/2" wood screws, being careful to insure the air gap is maintained between the flashing and the chase. Seal the screw heads with non-hardening sealant. When installing the Storm Collar, allow a 1" air space between the bottom of the Storm Collar and the Chase Top Flashing.

MASONRY FIREPLACE INSTALLATIONS

- Determine Chimney Size:** Use **Table 4** to determine the correct diameter chimney for your fireplace.
- Mount Anchor Plate:** Chimneys for masonry fireplaces begin with an Anchor Plate. Make sure the surface of the masonry chimney has a level surface on which to attach the Anchor

Plate. If the top of the masonry does not have a level surface, then you will need to modify the masonry accordingly. Follow the requirements of your local building department for connecting factory-built chimneys to masonry fireboxes or masonry chimneys. Center the Anchor Plate over the masonry flue opening, and seal the Anchor Plate with a high-temperature (1000°F) sealant. Secure Anchor Plate with at least (4) 1/4" x 4" masonry anchors (**Fig 30**). It is very important that the Anchor Plate is level. *Be sure to maintain a 1" min. clearance to combustibles from the Anchor Plate.*

- Attach Chimney:** Twist lock the first Chimney Section clockwise onto the Anchor Plate.
- Finish Chimney:** Install the rest of the chimney as directed in the Ceiling Supported Installation section, Steps 4 through 10 (page 7). **Refer to Figure 1 and Table 4 for chimney**



Dotted line represents sample problem. Example shows fireplace opening as 36" wide and 30" high, and the chimney height as 20'. The correct flue size for the sample problem is 12" diameter pipe.

Table 4

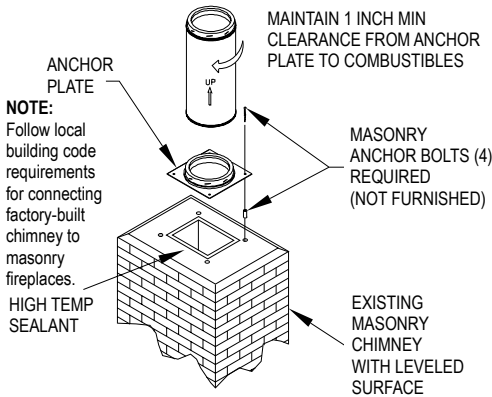


Figure 30

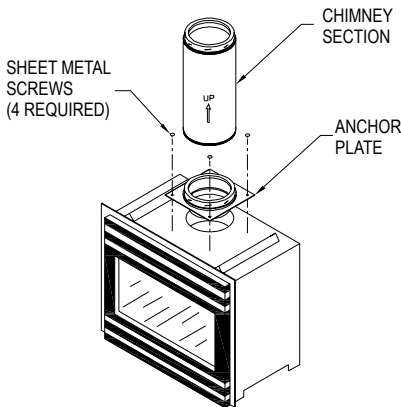


Figure 31

height requirements. Always maintain at least 2 inches of clearance to combustible materials, and enclose the chimney where it passes through occupied areas. Use a Wall Strap for every eight (8) feet of chimney height.

ZERO-CLEARANCE FIREPLACE INSTALLATIONS

1. Manufacturer's Instructions: Carefully read and comply with the manufacturer's installation instructions for your fireplace. Be sure that DuraTech is approved for use with your appliance.

2. Anchor Plate: Attach an Anchor Plate to the fireplace top with (4) 5/8" sheet metal screws (**Fig 31**). Check with the appliance manufacture about the use of high temperature sealants.

3. Chimney Sections: Attach a Chimney Section to the Anchor Plate by twist-locking clockwise.

4. Completion: Install the remainder of the chimney as instructed for a standard Ceiling-Supported installation, (using a Firestop Radiation Shield in the 1st floor ceiling instead of the Support Box). Always maintain at least 2 inches of clearance to combustibles, and enclose the chimney where it passes through occupied areas.

CONNECTION FROM APPLIANCE TO CHIMNEY SYSTEM

1. Single Wall Stovepipe: If single wall stovepipe is desired, Simpson Dura-Vent's "DuraBlack" single-wall stovepipe is recommended. The connection to the Ceiling Support Box, or Finishing Collar is made with a DuraBlack Slip Connector or a Snap-Lock Adapter. The beaded end of the Slip Connector or Snap Lock Adapter slips into the opening in the Ceiling Support or Finishing Collar. Align the tabs on the Slip Connector or Snap Lock Adapter with the notches in the face of the Support Box or Finishing Collar, push it in and rotate to lock it in place. Further instructions for assembling DuraBlack Stovepipe are contained in their shipping cartons. Remember, the minimum clearance to combustibles for single wall stovepipe is 18 inches.

2. Close Clearance Connector Pipe (DVL): Simpson Dura-Vent manufactures a close clearance connector pipe, also referred to as "DVL". DVL may be positioned as close as 6 inches to a combustible wall, and as close as 8 inches to a combustible ceiling, provided the

appliance installation instructions permit this distance. In order to join this type of connector to the Support Box or Finishing Collar, a DVL/ DuraBlack Chimney Adapter is required. The DVL/ DuraBlack Chimney Adapter slips into the opening in the Support Box or Finishing Collar. Align the tabs on the DVL/DuraBlack Chimney Adapter with the slots cut into the face of the Support Box or Finishing Collar, and push it in, and rotate to lock it in place. Detailed instructions for assembling the remainder of the close clearance system are included in the DVL shipping cartons.

3. Connection to Oil-Burning Appliance: DVL is especially recommended for oil appliances because of the corrosive nature of oil-burning exhaust. When connecting to an oil burning appliance, refer to National Fire Protection Association Standard #211. Table 6-5.1.1 in NFPA 211 states that you must allow for 18" clearance to combustibles if you are using single wall vent connector. If, however, your appliance is Type-L Vent listed and you are using a listed Type-L Vent connector, then you are permitted to use the clearances as specified by the vent listing.

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 spark arrestor screens at least every 2 to 4 weeks. If creosote or soot has accumulated, it should be cleaned or replaced to reduce the risk of

chimney fire.

4. How to Clean: Have your chimney cleaned by a Certified 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 four (4) screws that attach the cap's support legs to the cap base. The Tee Cleanout Cap can be removed by turning counter-clockwise. Be sure to replace Tee Cleanout Cap when you are finished cleaning the chimney.

5. Coal: *Warning:* Coal with a high sulfur content can lead to premature failure of the chimney. To reduce corrosion in chimneys where coal is burned, clean the chimney thoroughly within 48 hours of shutting down the stove for the season. An annual inspection is required due to the corrosive nature of the fuel.

6. Chemical Cleaners: Use chemical cleaners only as a last resort, and use only those which the manufacturer specifically warrants as being noncorrosive 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 air inlets, and call your Fire Department. Do not use the chimney again, until it has been inspected for possible damage.

8. Painting: As an option, you can 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. Painting the chimney will help to increase chimney life.

9. Creosote Formation: Simpson Dura-Vent assumes no liability for any 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, and those of the appliance manufacturer.

SIMPSON DURA-VENT WARRANTY

Simpson Dura-Vent Company, Inc. ("Simpson") provides this limited lifetime warranty for all of its products to the original purchaser, with the exception of Ventinox (lifetime), DuraBlack (five years) and all Termination Caps (five years). Subject to the limitations set forth below, Simpson warrants that its products will be free from substantial defects in material or manufacturing, if properly installed, maintained and used. This Warranty is non-transferable with the exception of Ventinox which is transferable from the original homeowner to the buyer of the home for a period of ten (10) years. This warranty does not cover normal wear and tear, smoke damage or damage caused by chimney fires, acts of God, or any product that was: (1) purchased other than from an authorized Simpson dealer, retailer or distributor; (2) modified or altered; (3) improperly serviced, inspected or cleaned; or (4) subject to negligence or any use not in accordance with the printed materials provided with the product as determined by Simpson. This limited lifetime warranty applies only to parts manufactured by Simpson.

Simpson provides the following warranties for its products: One Hundred Percent (100%) of the purchase price or MSRP at time of purchase, whichever is lower, for 15 years from the date of purchase, and Fifty Percent (50%) thereafter, except for the following limitations: Ventinox liner and components in wood, oil, wood pellet, and gas installations are warranted at One Hundred Percent (100%) for the lifetime of the original homeowner; Ventinox 316 liner and components for coal burning installations which are warranted One Hundred Percent (100%) for ten years; all Termination Caps and DuraBlack® are warranted at One Hundred Percent (100%) for five years, and at Ten Percent (10%) thereafter.

All warranty obligations of Simpson shall be limited to repair or replacement of the defective product pursuant to the terms and conditions applicable to each product line. These remedies shall constitute Simpson's sole obligation and sole remedy under this limited warranty. This warranty provides no cash surrender value. The terms and conditions of this limited lifetime warranty may not be modified, altered or waived by any action, inaction or representation, whether oral or in writing, except upon the express, written authority of an executive officer of Simpson.

VENTINOX WARRANTY CONDITIONS

Liner and Component warranties contained herein are subject to the following conditions: (1) The Liner and Components must be installed according to SDV's installation instructions; (2) The Liner and Components are used only to line or reline chimneys venting residential appliances for which the liner was intended; and (3) documented annual inspection of the Liner and Components and maintenance as deemed necessary, beginning one year after the date of installation and continuing throughout the warranty period, by a Nationally Certified Chimney Sweep or VENTINOX® installer. The Liner and Components warranty is further subject to compliance with the following requirements throughout the warranty period: The chimney must have a chimney cap and chemical chimney cleaners must not be used when cleaning the Liner or Components. Plastic-bristle flue cleaning brushes are recommended. Corn, biofuels, driftwood or other wood containing salt, preservative-treated lumber, plastic and household trash or garbage, or wood pellets containing such materials must not be burned in the appliance or fireplace. In case of a chimney fire, the chimney must be inspected and approved by a certified Chimney Sweep before reuse. After each annual inspection, maintenance, and cleaning, the certified Chimney Sweep must fill out and date the appropriate section of the warranty card provided with the chimney liner.

LIMITATIONS ON INTERNET SALES:

Notwithstanding any other terms or conditions of this limited lifetime warranty, Simpson provides no warranty for the following specific products if such products are both: (a) purchased from an Internet seller; and (b) not installed by a qualified professional installer: DuraTech®, DuraPlus HTC®, PelletVent Pro®, FasnSeal®, and Simpson's relining products including DuraLiner®, DuraFlex® 304, DuraFlex® 316, DuraFlex® Pro, DuraFlex® SW, and Ventinox®. For purposes of this warranty, a trained professional installer is defined as one of the following: licensed contractors with prior chimney installation experience, CSIA Certified Chimney Sweeps, NFI Certified Specialists, or WETT Certified Professionals.

Simpson reserves the right to inspect defective product to determine if it qualifies for replacement under the terms of this limited lifetime warranty. All warranty claims must be submitted with proof of purchase. Labor and installation costs are not covered under this warranty. To obtain warranty service contact Simpson promptly at Simpson Dura-Vent Warranty Service, 877 Cotting Ct., Vacaville CA 95688, or call 800-835-4429.

WHERE LAWFUL, SIMPSON DISCLAIMS ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL SIMPSON BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES OR DIRECT OR INDIRECT LOSS OF ANY KIND, INCLUDING BUT NOT LIMITED TO PROPERTY DAMAGE AND PERSONAL INJURY. SIMPSON'S ENTIRE LIABILITY IS LIMITED TO THE PURCHASE PRICE OF THIS PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

For the most up-to-date installation instructions, see www.duravent.com

REV 3.3.2010

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Manufactured in Vacaville CA and Albany NY

SIMPSON

Dura-Vent

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