



ICC INDUSTRIAL CHIMNEY COMPANY INC.
ST-JÉRÔME, QUÉBEC, CANADA, J7Y 4B7
TEL: (450) 565-6336 • FAX: (450)565-6519

INSTALLATION AND OPERATION INSTRUCTIONS

"IS"

CHIMNEY TYPE: FACTORY BUILT CHIMNEY FOR USE
ON COMMERCIAL AND INDUSTRIAL
NATURAL DRAFT APPLIANCES.

SIZE: 6" TO 48" I.D.

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.

Use only factory supplied components. Failure to do so will void the certification and the warranty of this chimney.

If possible, install the chimney on the interior of the building as it will provide better performance than an exterior chimney. In areas with continuous temperatures below 18 °C. (0 °F.) the use of an exterior chimney may result in operating problems such as poor draft and excessive condensation of combustion products. If you do install an exterior chimney, we recommend that you install it within an insulated enclosure.

Read these instructions and keep them for future reference. Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.

TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS.....	3
INSTALLATION NOTES.....	4
MODEL "IS" CHIMNEY.....	5
INSTALLATION INSTRUCTIONS.....	5
ANCHOR PLATE (IAP).....	5
BASE SUPPORT (IBS).....	6
WALL SUPPORT (IWS).....	7
CHIMNEY LENGTH (IL).....	7
ELBOWS (IE).....	7
WALL BAND (IWB).....	8
GUY BAND (IGB).....	8
RADIATION SHIELD (IRS).....	8
ROOF FLASHING (IF,IFA,IFB).....	9
RAIN CAP (IRC) and EXIT CONE (ICE).....	9
ASJUSTABLE LENGTH (ILA).....	10

LISTING:

CANADA

STANDARD ULC/ORD-C959-1993
ULC LISTING # MH 26957 (CMH 1418)
INDUSTRIAL FACTORY-BUILT CHIMNEY
(6" to 48" I.D.)

USA

STANDARD UL-103
UL LISTING # MH-16722
BUILDING HEATING APPLIANCES CHIMNEY
(6" to 36" I.D.)

TECHNICAL SPECIFICATIONS

MATERIALS:

Casing	GALVALUME, STAINLESS STEEL TYPE 304 OR 316, 430, 444
Flue	STAINLESS STEEL TYPE 304 OR 316, 444
Insulation	ICC "THERMOPLUS" HIGH TEMPERATURE INSULATION

ALLOWABLE FLUE GAS TEMPERATURE:

MAXIMUM CONTINUOUS FIRING	1400°F	760°C
BRIEF FORCE FIRING	1700°F	925°C
TESTED TO	1800°F	980°C
Also tested and listed to:		
MAXIMUM CONTINUOUS FIRING	1000°F	540°C
BRIEF FORCE FIRING	1400°F	760°C
TESTED TO	1700°F	925°C

CLEARANCES:

To Non-Combustible material: No Clearance Required

To Combustible material: See Chart below

CHIMNEY I.D. CONTINUOUS TEMPERATURE		
(in.)	1000°F	1400°F
6"-12"	2"	2"
14"	2"	4"
16"	2"	5"
18"-20"	2"	6"
22"	2"	7"
24"	4"	7"
26"-28"	5"	7"
30"-32"	6"	7"
34"-36"	7"	7"
38"-48"	8"	8"

INSTALLATION NOTES

GENERAL:

1. The chimney is intended for use with commercial and industrial heating appliances relying on natural draft for venting the combustion products. This chimney is NOT for use in single or two family residences.

Allowable Flue Gas Temperature:

MAXIMUM CONTINUOUS FIRING	1400°F	760°C
BRIEF FORCE FIRING	1700°F	925°C
TESTED TO	1800°F	980°C

2. Size the chimney in accordance with the appliance manufacturer's instructions. ICC will calculate correct chimney sizing on request.
3. The chimney must NOT be enclosed in a combustibile chase. If it is desirable to enclose the chimney, then the enclosure must be constructed of non combustibile materials. The fire rating required is determined by the local building code. A one hour fire rating is accepted in most areas.
4. Do not fill the space around the chimney with insulation or any other material. This space must remain empty.
5. The chimney shall extend at least 3 ft. above point of contact with the roof and at least 2 ft. higher than any wall, roof or adjacent building within 10 ft.
6. The maximum height of unguyed chimney above the roof is 5 ft.
7. The clearance between single wall connector and unprotected combustibile material must not be less than 18" (refer to the Building Code in use in your area).
8. Factory built chimneys which extend through any story above that on which the connected appliance is located are to be provided with enclosures having a fire rating equal to or greater than that of the floor or roof assembly through which they pass.
9. A support must be installed on the first chimney section above each vertical tee.
10. **Chimney Cleaning:**

Keep your chimney clean. Access should be provided for the inspection and cleaning of all sections of the chimney.

Have your chimney cleaned by a qualified chimney sweep. If you want to clean your chimney yourself, then clean your chimney using a nylon or metal chimney brush of the CORRECT SIZE. DO NOT use a brush that will scratch the stainless steel interior of the chimney.

11. **Soot Formation and Need for Removal (oil appliance):**

Soot can accumulate on the chimney flue when connected to an oil fired appliance. If not removed periodically this deposit can ignite and possibly damage the chimney.

The chimney should be inspected at least once every year during the heating season to determine if any build-up of soot has occurred.

If soot has accumulated, it should be removed to reduce the risk of chimney fire.

MODEL "IS" CHIMNEY

1. The maximum height of chimney supported is:

Chimney Size (I.D.)		6"	8"	10"	12"	14"	16"	18"	20"
Anchor Plate	(PAP)	186'	146'	120'	102'	89'	78'	70'	64'
Base Support	(PBS)	186'	146'	120'	102'	89'	78'	70'	64'
Wall Support	(PWS)	150'	118'	97'	82'	72'	63'	57'	51'
Chimney Length	(PL)	186'	146'	120'	102'	89'	78'	70'	64'
Insulated Tee	(PTI)	82'	65'	53'	45'	39'	35'	31'	28'

Chimney Size (I.D.)		22"	24"	26"	28"	30"	32"	34"	36"
Anchor Plate	(PAP)	58'	53'	49'	46'	43'	40'	38'	36'
Base Support	(PBS)	58'	53'	49'	46'	43'	40'	38'	36'
Wall Support	(PWS)	47'	43'	40'	37'	35'	33'	31'	29'
Chimney Length	(PL)	58'	53'	49'	46'	43'	40'	38'	36'
Insulated Tee	(PTI)	26'	23'	22'	20'	19'	18'	17'	16'

Chimney Size (I.D.)		38"	40"	42"	44"	46"	48"
Anchor Plate	(PAP)	34'	33'	31'	30'	28'	27'
Base Support	(PBS)	34'	33'	31'	30'	28'	27'
Wall Support	(PWS)	28'	26'	25'	24'	23'	22'
Chimney Length	(PL)	34'	33'	31'	30'	28'	27'
Insulated Tee	(PTI)	15'	14'	13'	13'	12'	12'

2. The supports described in this booklet are the only supports which should be used with ICC's MODEL "IS" Factory Built Chimney.

3. If additional height is required, use an additional support at the specified maximum chimney support height.

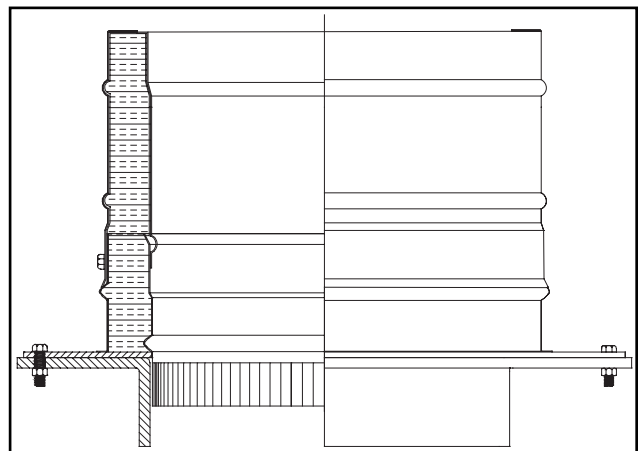
INSTALLATION INSTRUCTIONS

ANCHOR PLATE (IAP)

The chimney may be supported directly on top of the appliance. This is achieved by attaching an Anchor Plate (AP) directly to the outlet of the appliance. There are many flue collar designs as there are boiler manufacturers. Our standard anchor plate will accommodate most boilers and we can design special plates to fit any outlet.

The maximum height of chimney supported will be determined by the allowable maximum load on the boiler or engine, but should not exceed 50 feet.

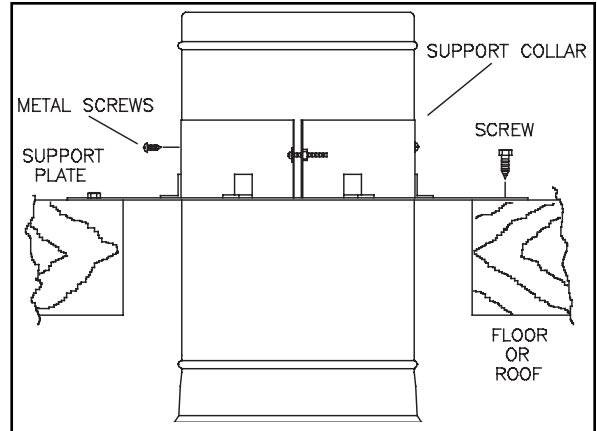
1. Attach the anchor plate to the appliance flue outlet using clamps, bolts or stainless steel metal screws depending on the flue outlet type.
2. Place the first chimney length on the anchor plate.
3. Attach the chimney length to the anchor plate using stainless steel metal screws through the anchor plate retaining brackets.



BASE SUPPORT (IBS)

This Support may be attached to a combustible or non-combustible floor or roof.

1. Attach the support to the floor or roof using at least a #10 X 2" screw through each hole in the support.
2. Place the support collar around the chimney length at the desired height. Tighten the ring and then screw the Stainless Steel metal screws (supplied with support) through the collar and into the chimney casing. Be sure to use a metal screw in each prepunched hole.
3. Place the chimney and collar in the support.
4. Continue installing chimney lengths as required.



The minimum hole size is:

The Minimum Hole Size (1000°F flue gas)

Chimney Size (I.D.)	6"	8"	10"	12"	14"	16"	18"	20"
Combustible	12"	14"	16"	18"	20"	22"	24"	26"
Non-combustible	9"	11"	13"	15"	17"	19"	21"	23"

Chimney Size (I.D.)	22"	24"	26"	28"	30"	32"	34"	36"
Combustible	28"	34"	38"	40"	44"	46"	50"	52"
Non-combustible	25"	27"	29"	31"	33"	35"	37"	39"

Chimney Size (I.D.)	38"	40"	42"	44"	46"	48"
Combustible	56"	58"	60"	62"	64"	66"
Non-combustible	41"	43"	45"	47"	49"	51"

The Minimum Hole Size (1400°F flue gas)

Chimney Size (I.D.)	6"	8"	10"	12"	14"	16"	18"	20"
Combustible	12"	14"	16"	18"	24"	28"	32"	34"
Non-combustible	9"	11"	13"	15"	17"	19"	21"	23"

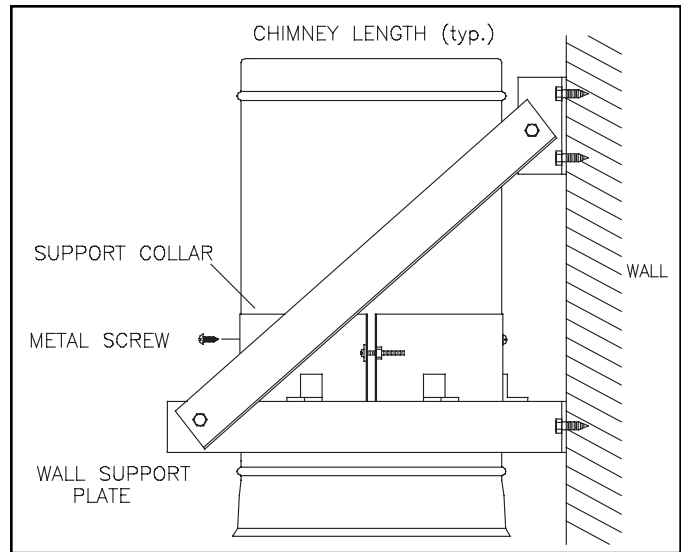
Chimney Size (I.D.)	22"	24"	26"	28"	30"	32"	34"	36"
Combustible	38"	40"	42"	44"	46"	48"	50"	52"
Non-combustible	25"	27"	29"	31"	33"	35"	37"	39"

Chimney Size (I.D.)	38"	40"	42"	44"	46"	48"
Combustible	56"	58"	60"	62"	64"	66"
Non-combustible	41"	43"	45"	47"	49"	51"

WALL SUPPORT (IWS)

This support may be attached to a combustible or non-combustible wall. It may be used to support an Insulated Tee or a Chimney Length.

1. Attach the main support plate to the wall using at least a #10 X 2" screw through each hole in the plate. Make sure the support is horizontal, then attach the angle arms to the wall above the support.
2. Place the support collar around the chimney length at the desired height. Tighten the ring and then screw the Stainless Steel metal screws (supplied with support) through the collar and into the chimney casing. Be sure to use as many metal screws as there are prepunched holes in the chimney lengths.
3. Place the chimney and collar in the support.
4. Continue installing chimney lengths as required.

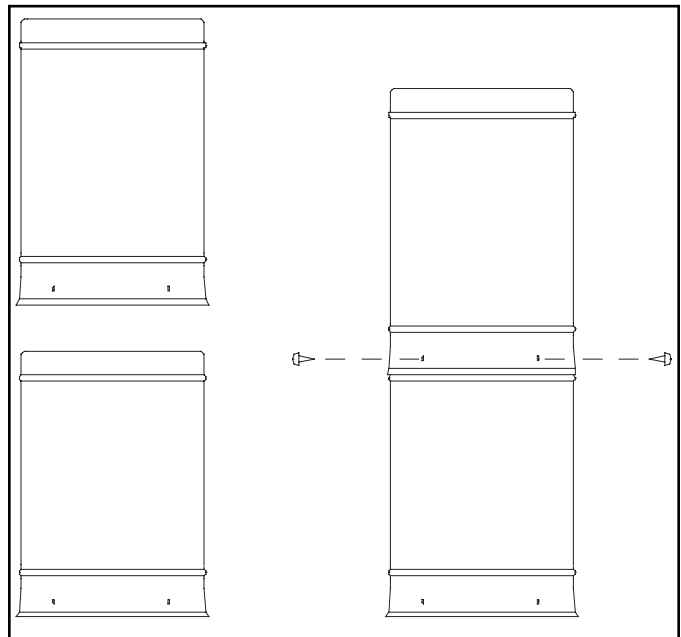


CHIMNEY LENGTHS (IL)

Typical for Chimney Length, Tee and Elbow installation

Install Chimney lengths as follows:

1. Attach the first chimney section to the AP (see the Anchor Plate instructions).
2. Firmly place the next chimney section on top of the first section. Screw the Stainless Steel metal screws (supplied with the length) through the prepunched holes in the bottom of the length and into the lower length. Be sure to use a metal screw in each prepunched hole.
3. Continue until the required chimney height is achieved.



ELBOWS (IE15, IE30 & IE45)

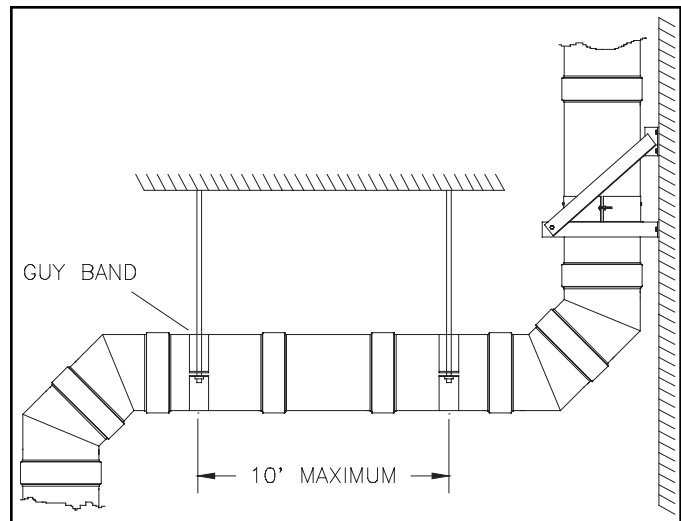
Elbows are used to offset the chimney in order to bypass a building obstruction. The number of elbows used and the degree of offset should be kept to a minimum because offsets reduce the draft available to the chimney.

The elbows are attached in the same manner as the chimney lengths.

A support must be used above any offset.

A Guy Band (GB) must be used for any offset of more than ten feet. Use additional Guy Bands at ten foot intervals of the offset chimney.

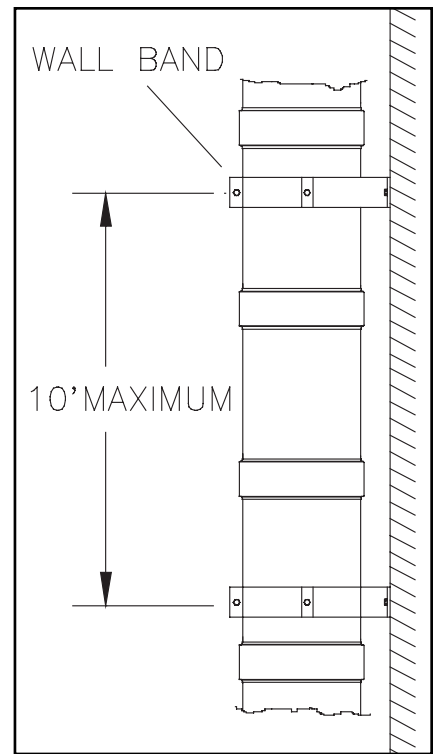
1. Place the elbow on the chimney length.
2. Screw the Stainless Steel metal screws (supplied with the elbow) through the prepunched holes in the bottom of the elbow and into the lower length. Be sure to use a metal screw in each prepunched hole.



WALL BAND (IWB)

The Wall Band is used to secure the chimney to an exterior or interior wall. The recommended maximum length of chimney between wall bands is ten feet.

1. Choose a convenient location for the Wall Band.
2. Place the band collar around the chimney length at the desired height. Tighten the ring and then screw the Stainless Steel metal screws (supplied with wall band) through the collar and into the chimney casing. Be sure to use a metal screw in each prepunched hole.
3. Attach the band arms to the collar using the bolts supplied.
4. Attach the band arms to the wall a minimum of #10 X 2" metal screws through each hole in the support.

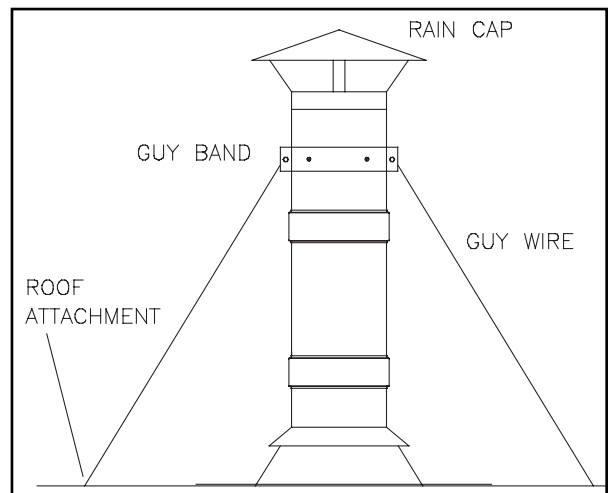


GUY BAND (IGB)

The Guy Band may be used to support an offset chimney. The maximum distance between Guy Bands is ten feet.

The Guy Band may also be used to secure a chimney above the roof. The maximum length of unguyed chimney above the roof is five feet. The maximum length of guyed chimney above the roof is twenty feet. The maximum length of chimney between guy bands is ten feet. If height greater than twenty feet is required above the roof, an engineered support system should be installed.

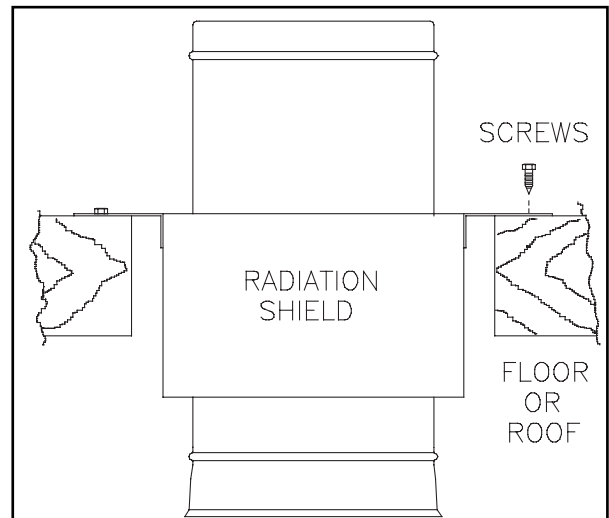
1. Place the band collar around the chimney length at the desired location. Tighten the ring and then screw the Stainless Steel metal screws (supplied with the band) through the band and into the chimney casing. Be sure to use a metal screw in each prepunched hole.
2. Attach guy wires to the band and to the roof or ceiling using adequate attachments (not supplied). Tighten the guy wires until the chimney is properly located and secure.



RADIATION SHIELD (IRS)

The Radiation Shield is used to shield the chimney when passing through a combustible floor or roof. See the tables on page 9 for the required hole size.

1. Install the length of chimney that passes through the floor or roof.
2. Fit the Radiation Shield over the chimney and position it so that the attachment tabs touch the floor or roof.
3. Attach the tabs to the floor or roof using 2" * #8 screws.



The Minimum Hole Size (1000°F flue gas)

Chimney Size (I.D.)	6"	8"	10"	12"	14"	16"	18"	20"
Hole size	12"	14"	16"	18"	20"	22"	24"	26"
Chimney Size (I.D.)	22"	24"	26"	28"	30"	32"	34"	36"
Hole size	28"	34"	38"	40"	44"	46"	50"	52"
Chimney Size (I.D.)	38"	40"	42"	44"	46"	48"		
Hole size	56"	58"	60"	62"	64"	66"		

The Minimum Hole Size (1400°F flue gas)

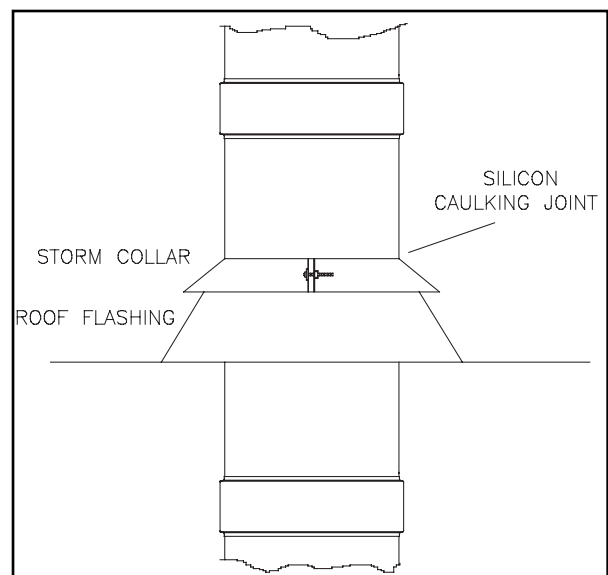
Chimney Size (I.D.)	6"	8"	10"	12"	14"	16"	18"	20"
Hole size	12"	14"	16"	18"	24"	28"	32"	34"
Chimney Size (I.D.)	22"	24"	26"	28"	30"	32"	34"	36"
Hole size	38"	40"	42"	44"	46"	48"	50"	52"
Chimney Size (I.D.)	38"	40"	42"	44"	46"	48"		
Hole size	56"	58"	60"	62"	64"	66"		

ROOF FLASHING (IF, IFA, IFB)

1. Put the roof flashing in place. Seal the joint between the roof and the flashing with roofing pitch.

For sloping roofs, place the flashing under the upper shingles and on the top of the lower shingles.

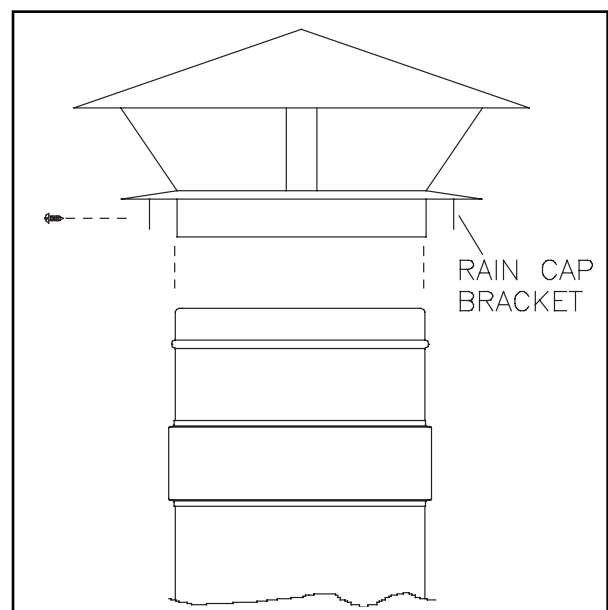
2. Nail the flashing to the roof using roofing nails.
3. Place the storm collar over the chimney and the flashing. Tighten it with the bolt supplied making sure the joint is properly caulked.



RAIN CAP (IRC) AND EXIT CONE (IEC)

A chimney must be terminated using either a Rain Cap or an Exit Cone. If an Exit Cone is installed, then a Drain Tee Cap (ITD) must be installed.

1. Fit the Cap or Cone on to the top chimney length.
2. Screw the Stainless Steel metal screws (supplied with the cap) through the prepunched holes in the bottom of the cap and into the lower length. Be sure to use a metal screw in each prepunched hole.



ADJUSTABLE LENGTH (ILA)

The adjustable length is to allow the chimney to fit in a fixed distance when a suitable standard length is not available. Typical applications are between two elbows when a fixed offset distance is required or between two boiler outlet flanges which are a fixed distance apart.

The length of the outer casing of the adjustable length must be set before it is installed. The adjustable length is installed by sliding the flue (inner stainless steel) into the section below it after the two piece outer casing has been adjusted to the correct overall length. The adjustable length should be installed with a straight chimney section below it, there is not sufficient room for it to adjust into a tee or elbow.

1. Measure the exact length required, be sure to allow for the overlap between chimney sections.
2. Slide the two piece outer casing together until the correct overall length is achieved.
3. Fasten the two casing sections together using the stainless steel sheet metal screws provided. Be sure to put a screw in each pre-punched hole.
4. Cut off the exposed insulation. You do not need to remove any extra insulation in order to allow for overlap, the insulation will compress sufficiently when assembled.
5. Slide the flue into the length below it and fasten the exterior together in the same manner as a conventional chimney section. It may require somewhat more effort to connect the adjustable length since you are compressing the insulation at the same time.