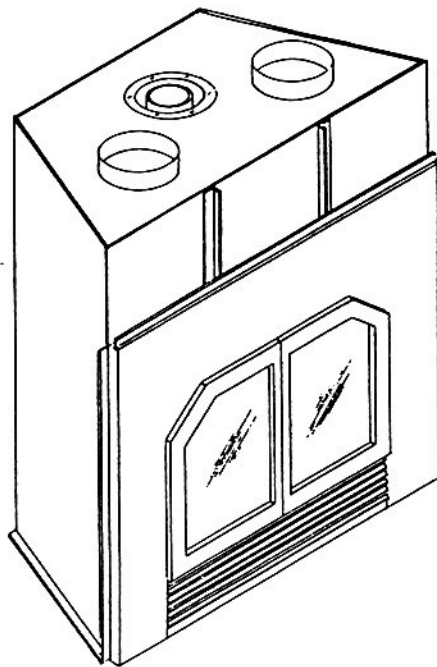

FIREPLACE MODEL BIS II
INSTALLATION
AND OPERATION
MANUAL

BIS II



**SECURITY
FIREPLACE**

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**SECURITY
FIREPLACE
MODEL BIS II**

INSTALLATION AND OPERATING INSTRUCTIONS

Read these Instructions and keep them for future reference. Before installing the fireplace, consult your local building authority to obtain a building permit as well as information on the specific requirements in your area. Install the fireplace only as described in these instructions and using only Security components. The BIS II is not intended for use with a gas log. **WARNING: THIS FIREPLACE HAS NOT BEEN TESTED WITH AN UNVENTED GAS LOG SET. TO REDUCE RISK OF FIRE OR INJURY, DO NOT INSTALL AN UNVENTED GAS LOG SET INTO THIS FIREPLACE.** Failure to follow these instructions will void the certification and the warranty of the fireplace, and may result in an unsafe installation.

PARTS REQUIRED

- * Fireplace Model BIS II (Choice of single or double Hot Air Duct)
- * 7" Security Model ASHT or S-2100 chimney including:
 - Chimney lengths
 - Insulated elbows (where necessary)
 - Firestop-radiation shield, Attic radiation shield
 - Roof flashing
 - Rain cap

OPTIONAL PARTS

- Outside air kit
- Steel hearth extension
- Brass grills
- Brass louvers

NOTE: The BIS II can only be installed with a 7" ASHT or S-2100 chimney manufactured by Security Chimneys.

The BIS II is not tested for use with a masonry chimney or with a chimney liner.

Listed: Warnock Hersey 190-0165

Standards: ULC S610, UL 127, Oregon DEQ, U.S.A. EPA 1990. Certificate #260

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OPERATING THE BIS II

FUEL

The BIS II is designed to work best when fueled with seasoned cordwood. Hardwoods are preferred to softwoods since the energy content of wood is relative to its density. Hardwoods will result in a longer burning fire and less frequent refueling. The BIS II should be fueled with wood cut to 18" (457 mm) or less in length. A moisture content of 15% to 20% (seasoned) is preferred. Excessively wet wood will be difficult to burn, and will result in lower efficiency, increased creosoting, and deposits on the glass. Excessively dry wood will burn well but will also have higher emissions and shorter burning time.

Do not burn scrap or garbage, treated wood, or wood such as driftwood from the ocean which has been exposed to salt or other chemicals. Salt or chemicals can corrode the firebox and chimney. Do not abuse the unit by burning large amounts of paper, cardboard, Christmas tree branches or building construction materials such as pressed wood, plywood, or lumber. Intense firing with these may overheat the fireplace, causing damage to the unit, a fire, or even possibly igniting a chimney fire, if the chimney is creosoted.

FIRST FIRES

Labels which may have been applied to the glass are easily removed once the glass is hot.(slow flame).

The first 5 or 6 fires should be small fires of short duration (about 30–60 minutes). The first fire should be especially short. This will help cure (dry) the refractory bricks. The first fires may produce slight smoking due to drying of the paint and steel, and any dust accumulated on the fireplace will be burnt off at this time. For this reason the room should be well ventilated for the first few fires.

BUILDING A FIRE

To start a fire, place several crumpled up balls of newspaper in the firebox. Place small dry pieces of kindling on top of the paper, crisscrossing the kindling so that there are airspaces in between. Place larger pieces of kindling on top of the pile. Keep the fuel far back enough so that air can get underneath. Open the air control fully and light the newspaper. Once the newspaper is well ignited, close the doors. Once the kindling fire is well established, cordwood can be added. The unit will burn best with a minimum of 2 pieces of cordwood spaced 1" (25 mm) to 2" (50 mm) apart and allowing air to get under the fuel. Crisscrossing, or arranging the fuel so that air can get underneath, will help the fire to get started easily. The unit should be operated with the air control fully open long enough to get the cordwood well ignited.

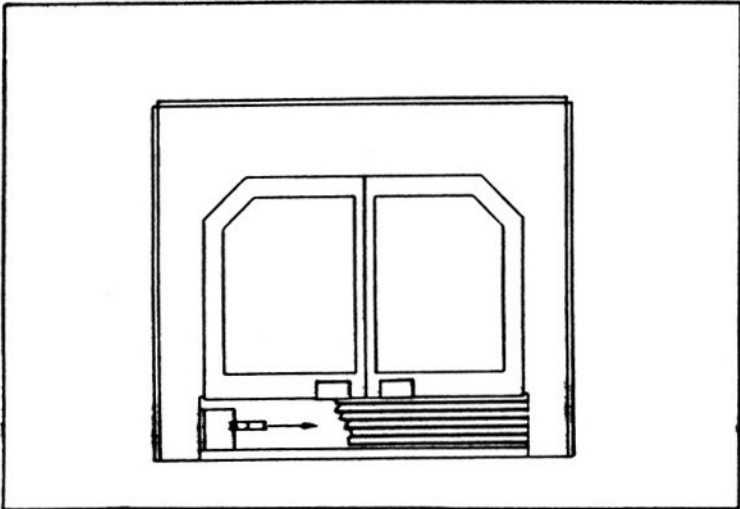
COMBUSTION CONTROL AND HEAT

There is no flue damper in the BIS II. As is common with air tight stoves, the combustion air damper controls the air entering the firebox. This allows more precise control of the fire. The combustion air damper knob is located below the left door. It is opened when moved toward the center of the fireplace. This control should be in the closed position when the BIS II is not in use. This will minimize air leakage up the chimney.

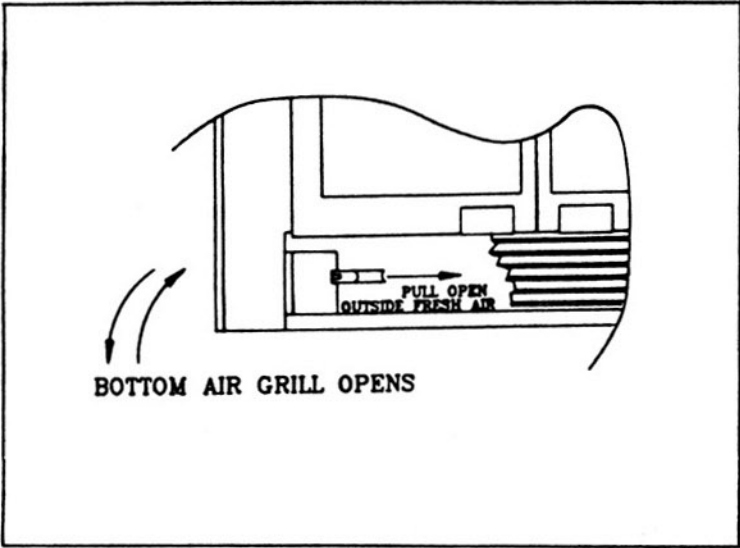
The combustion air control knob should be opened before opening the door, to minimize the possibility of back draft coming into the room.

OUTSIDE AIR CONTROL

Installations equipped with the optional outside air should be operated with the outside air supply opened. The control is located behind the bottom louver. Pull to open. (see fig. #1 & #2)



(FIG. #1)



(FIG. #2)

ACCELERATED COMBUSTION (High Heat Output)

The maximum heat output for the BIS II is achieved by burning with the doors closed and the combustion air damper opened. By this method, the BIS II can produce 40,000 to 50,000 BTU of heat per hour. It will be necessary to reload with wood every one to two hours. This is the least efficient method of burning the BIS II.

Use caution when firing with the combustion air control wide open. Only burn cordwood in this manner. Small dry pieces of softwoods, mill ends, and construction scraps will burn very intensely using this method and may damage the firebox.

Do not overfill the firebox with wood in an attempt to prolong reloading time. Too much wood may cause an overfire condition with flames reaching up into the chimney. This will greatly reduce efficiency and may damage the firebox.

MEDIUM COMBUSTION

This is the recommended mode of operating the BIS II and should be the one normally used since it will deposit the least amount of creosote on the glass and in the chimney.

The combustion air damper should be approximately 2/3 closed. The precise setting will depend on many factors, including chimney length, house air tightness and the moisture content of the wood. For instance, a long chimney in a relatively leaky house will necessitate closing the damper more. The dampers should be closed until the flame pattern slows and the flames appear dirty as they leave the firebox. The damper should then be opened about 1/2" (13 mm). Three medium size pieces of wood (split logs to approximately 4" x 4" x 16" (100 x 100 x 406 mm) should be burning on a bed of hot coals. The heat output will be approximately 30,000 BTU per hour and the loading time will be 2 to 3 hours. Softwoods may be burned using this method but the time will be substantially reduced.

SLOW COMBUSTION

With the air combustion damper completely closed, the burn rate will be reduced by about one half. Closing the damper will not stop the fire, but there will be a noticeable change in the flame pattern. The flames will be slow and may appear dirty. Creosote from the fire may accumulate on the glass doors unless the firebox is hot.

This method of burning should be used only after operating the BIS II with the air control open to produce a hot fire (see Refueling For Best Performance). Slow combustion can be used at night in order to reduce the heat output and to prolong the burn. Although active burning will appear to cease after 4 hours, a bed of hot coals will continue to burn and produce heat. These coals will remain hot throughout the night and will facilitate relighting the fire the next morning.

This method of operation will accelerate creosote accumulation in the chimney. Therefore, it will be necessary to inspect and clean the chimney more frequently.

REFUELING FOR BEST PERFORMANCE

The BIS II will operate best if attention is given to operating the unit with the damper open for a short period of time after refueling in order to bring the fuel load as well as the fireplace/chimney system, up to its optimum operating temperature. By operating the BIS II with a hot start after refueling, the BIS II can achieve the burn rates of slow combustion, but with the temperature and performance of medium combustion. Combustion efficiency is relative to firebox temperature, and therefore ensuring that there is sufficient temperature in the firebox will improve performance. Once the firebox is hot enough so that flames reach beyond the baffle, the damper can be closed to the minimum setting. If the flames do not continue beyond the edge of the baffle, the air control should be reopened to establish a hotter fire. The benefit of this technique will be cleaner glass, less creosoting, greater efficiency, and the most pleasing fire for your enjoyment.

SMOKING: Causes and Troubleshooting

To reduce the likelihood of smoking when opening the doors, open the damper before opening the doors. Your fireplace has been designed and tested to provide smoke free operation. Occasionally there may be a small amount of smoking upon lighting the fire, until the chimney heats up, but this should not continue. If the fireplace continues to smoke it is probably due to one or more of the following reasons:

1. THE DOORS ARE PARTIALLY OPEN

Open both doors fully when opening them.

2. NOT ENOUGH REPLACEMENT AIR

As the fire burns, air goes up the chimney. This air must be replaced through leakage into the house, or through the outside air duct (if installed). When operating the BIS II, the outside air supply should be open. Open a nearby window temporarily to check the adequacy of the replacement air supply.

3. VENTILATOR FAN OPERATING

These fans draw air out of the house and may actually draw air down the chimney. Open a nearby window and turn off all fans to determine if this is the cause of the problem.

4. TOO BIG A FIRE

Do not burn more than three medium (4" diameter) (100 mm) size logs at a time.

5. WET WOOD

Wet or tarred wood will smolder and smoke instead of burn properly.

6. DIRTY OR BLOCKED CHIMNEY

Check to make sure the chimney is clear and reasonably clean.

7. CHIMNEY NOT LONG ENOUGH

The chimney must extend at least 3' (915 mm) above its point of contact with the roof and at least 2' (610 mm) higher than any roof or wall within 10' (3 m) of it. When installed with offsets, additional height is required to maintain the minimum height and to compensate for the decrease in draft. Additional height will increase draft and will decrease the tendency to smoke if caused by low draft.

8. NEGATIVE PRESSURE IN THE HOUSE

With no fire, there should be sufficient draft to exhaust cigarette smoke or other smoke introduced under the baffle. If the chimney has been installed properly and is operating properly, then the smoke should go up the flue. Chimneys which have an installation deficiency, or one or more of the above problems, may be drawing cold air down the flue and into the room. These chimneys will often smoke temporarily on startup until the chimney is heated up. Closing upstairs windows and opening a nearby window will help to overcome smoking caused by house depressurization.

IMPORTANT POINTS:

1. Do not block the hot air vents or air inlet to the fireplace as this will cause the fireplace to overheat.
2. Never start a fire using gasoline, kerosene, charcoal lighter fluid, or any other combustible liquid.
3. Do not burn coal. The sulfur in coal will corrode the firebox.
4. Do not burn driftwood which has been in the ocean or salt water. The salt will corrode the firebox and chimney.
5. Do not operate the unit with the doors partially open, or with one door open, since this may cause smoke to be drawn into the room.
6. Do not burn wood in the area in front of the grate.
7. Do not abuse the unit by overfiring or by burning paper, or cardboard, or construction material such as pressed wood, plywood, or lumber.
8. Do not allow the wood to smoulder or burn without flame, since this will produce excessive creosote on the unit.

MAINTAINING YOUR BIS II

CREOSOTE

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form a black deposit called 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. If the creosote accumulation is large, a creosote fire in the chimney can damage the chimney and overheat the surrounding wood framing. Creosote formation in a chimney can be minimized by making small hot fires rather than slow burning, smoldering fires, and by proper refueling techniques. The BIS II is designed and tested to produce a low amount of emissions when operated correctly.

CHIMNEY MAINTENANCE

Regular chimney inspections and maintenance combined with proper operation will prevent chimney fires. Keep your chimney clean. Do not allow more than 1/16" creosote build up in your chimney. The amount of creosote will depend on variables such as frequency of use and type of fire. We recommend that you:

1. Initially inspect the chimney system weekly. From this you will learn how often it will be necessary to clean your chimney.
2. Have your chimney cleaned by a qualified chimney sweep. If you wish to clean it yourself, we recommend using a stiff plastic or non-metallic brush. If a metal brush is used, its size should be slightly smaller than the flue to avoid damaging the chimney. Do not use a brush that will scratch the stainless steel interior of the chimney.
3. Do not expect chemical cleaners to keep your chimney clean.

The rain cap can be removed for inspection and/or cleaning of the chimney. Using gloves, firmly grip the lower portion of the rain cap. Turn the cap 1/8 of a turn counter-clockwise and lift it off the chimney.

DEALING WITH A CHIMNEY FIRE

Regular chimney maintenance and inspection combined with proper operation can prevent chimney fires. If you have a chimney fire, follow these steps:

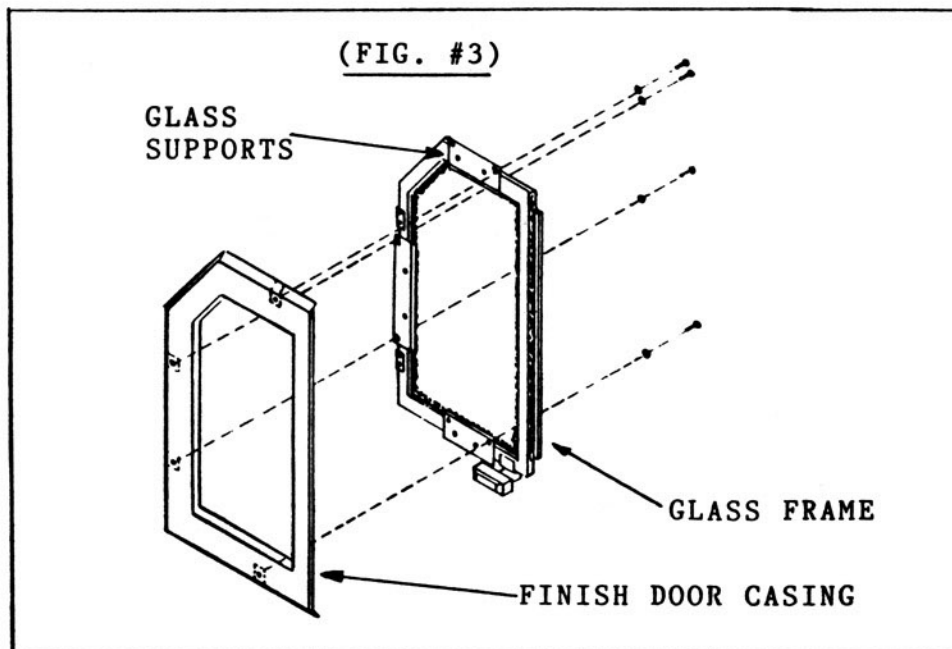
1. Close the fireplace doors and combustion air damper.
2. Alert your family of the possible danger.
3. If you require assistance, alert your fire department.
4. If possible, use a dry chemical fire extinguisher, baking soda or sand to control the fire. Do not use water as it may cause a dangerous steam explosion.
5. Check outside to ensure that sparks and hot embers coming out of the chimney are not igniting the roof.
6. Do not use the fireplace again until your chimney and fireplace have been inspected by a qualified chimney sweep or a Fire Department Inspector.

FINISH DOOR CASING CARE

Use a glass cleaner and a soft cloth to polish the casing. Do not use abrasives such as steel-wool or steel pads for they may scratch the casing's finish.

FINISH DOOR CASING ALIGNMENT

The finish door casing is fixed to the glass supports with screws (come with package) which can be adjusted to obtain the proper alignment. (see fig.#3)



ASHES

Remove ashes only when the fire is out and the ashes are cold. Open the doors and remove the plug inside the firebox. Open the bottom louver. On the right side of the ashtray push the angled rod towards the bottom. Using a brush sweep the ashes in the opening in the firebox. Pull the ashtray out and place the ashes in a metal container with a tight fitting lid. Do not put ashes in a cardboard box, and do not place the container on or near combustible material. The ashes remain hot for days and can start a fire. Do not leave the ashes in the house as they give off carbon monoxide and other toxic gases.

REFRACTORY

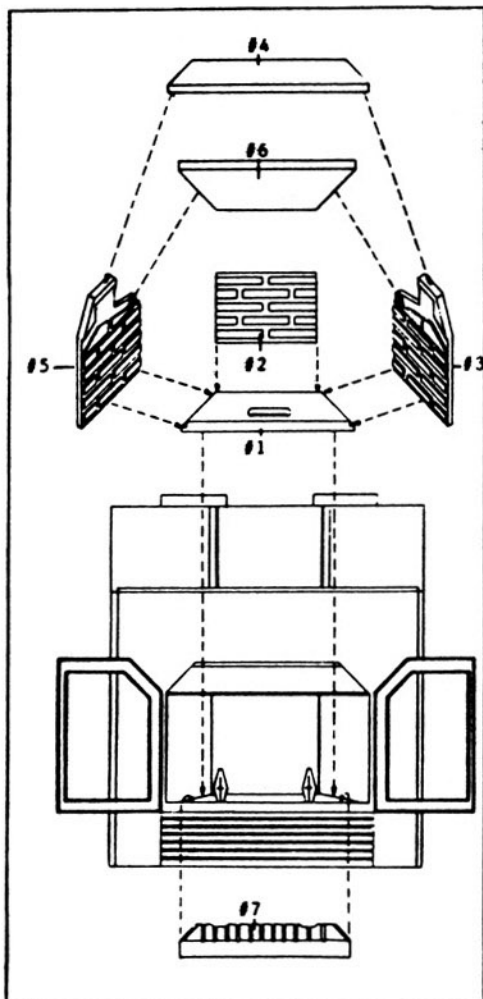
The intense heat of the fire will normally cause hairline cracks in the refractory. These cracks can be minimized by proper curing as described in "First Fires". They will not normally diminish the effectiveness of the refractory. If large cracks develop, then the refractory should be replaced.

To install the refractory, follow these steps:(fig.#4, reference to numbers.)

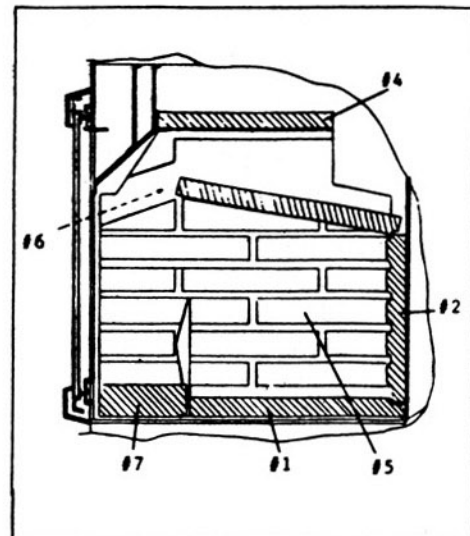
- 1 - Place the bottom refractory (#1) in the firebox, behind the log retainers. Make sure that the holes leading to the ash tray are aligned.
- 2 - Set the back refractory (#2) against the back of the firebox making sure that its bottomsides is set properly on the bottom refractory.
- 3 - Place the right side refractory (#3) slanting it so its bottomsides will be placed on the bottom refractory first and push the upper part into place against the side of the firebox.
- 4 - Place the top baffle refractory (#4) before placing the left side refractory. This refractory rests on the side refractories and its front edge rests on the top baffle refractory support. (see fig.#5)
- 5 - For the left side refractory (#5) refer to right side refractory installation, point #3.
- 6 - The baffle refractory (#6) is slipped into place between the side refractories. Follow the arrows in figure #5.
- 7 - Finally, the front ledge refractory (#7) is placed in front of the log retainers. Make sure the slots of the refractory are aligned with the log retainers.

DRAWINGS

(FIG. #4)



(FIG. #5)



DOOR AIRTIGHTNESS ADJUSTMENT

The doors may be adjusted to close tighter. Accurate adjustment can be done on the angle brackets (door locks) located at the door junctions. (See fig. #6)

HINGE ADJUSTMENT

The doors are also equipped with adjustable hinges. This adjustment has been made at the factory. If required to adjust the space between both doors or their levelness, this can be done through the (4) hinges. (See fig. #6)

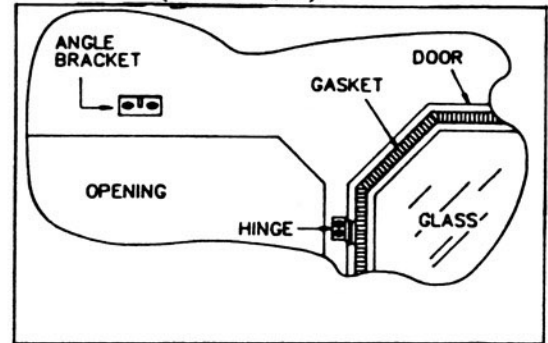
GLASS CARE - REPLACEMENT

The glass used for the BIS II doors is a high temperature ceramic glass. If the glass breaks, it must be replaced with a ceramic glass such as Neoceram (for dimensions see fig. #7). Tempered or ordinary glass will not withstand the high temperatures of the BIS II. Replacement glass should be purchased from Security Chimneys. Do not operate the unit with cracked or broken glass.

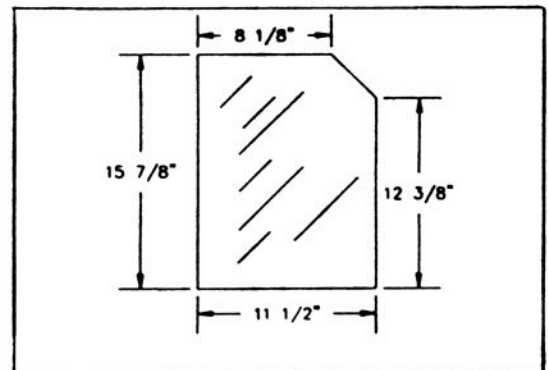
GLASS CARE - CLEANING

The BIS II has an air wash system designed to keep the glass clean under normal operating conditions. A small amount of creosote may build up on the lower glass area, especially if the doors are not sealed tightly (see door adjustment). Under low fire conditions (combustion damper closed) the glass will tend to get dirty unless the fuel, firebox and glass are maintained at hot temperatures (see refueling).

(FIG. #6)



(FIG. #7)



To clean the glass, there are a number of specially designed cleaners. Your authorized Security Dealer can recommend a suitable cleaner which is available in your area. Regular household glass cleaners will not clean creosote. Do not use abrasives such as steel pads, steel wool, or oven cleaner as they will scratch the glass.

GASKET REPLACEMENT

Remove the doors from the unit and lay them gasketside up on a clean unabrasive surface. To replace the gasket, first remove all of the old gasket and gasket cement. Make sure that the surface is totally clean before applying new cement or adhesion problems may result. Apply gasket cement to the gasket channel, and install the new gasket, available from your Security Dealer.

Gasket lengths are:

- | | | | |
|--------------------------|----------|--------|----------------------|
| - Gasket around glass | 55" long | Qty: 2 | 5/16" dia. |
| - Gasket between doors | 19" long | Qty: 1 | 3/16" dia. |
| - Gasket on door frame | 40" long | Qty: 2 | 3/4" dia. |
| - Gasket around ash trap | 8" long | Qty: 1 | 2" wide x 1/4" thick |

INSTALLATION FIREPLACE INSTALLATION NOTES

LOCATING THE BIS II:

- 1. The best location for your fireplace is determined by considering the location of windows, doors, and the traffic flow in the room where the fireplace is located, allowing space in front of the unit for the hearth extension and the mantel, and taking into consideration the location of the hot air ducts, outside air kit (if so equipped), and chimney. If possible, you should choose a location where the chimney will pass through the house without cutting floor or roof joists.**
- 2. Usually no additional floor support is needed for the fireplace. The adequacy of the floor can be checked by first estimating the weight of the fireplace system. Weights are given in the appendix. Next, measure the area occupied by the system. This will normally be 42" x 23" (1067 x 584 mm) for the fireplace. Note the floor construction as to the sizes and type of flooring and joists, and then consult your local building code to determine if additional support is needed.**
- 3. The BIS II can be installed above the floor level on a base, (see Hearth Extension Requirements) provided that there is a minimum of 7' (2135 mm) measured from the base of the appliance to the ceiling.**

OUTSIDE AIR REQUIREMENTS

During operation, the fireplace requires air for combustion and draws air out of the house. It may starve other fuel burning appliances such as gas or oil furnaces. As well, exhaust fans and fan driven appliances may compete for air, causing a negative pressure in the house and resulting in smoke entering the home from the appliance. This situation is aggravated in modern air tight houses. To overcome this potential problem, we recommend installing an Outside Air Kit with the BIS II. The kit is mandatory in some areas. Check with your local building authority for the requirements in your area.

The outside air damper should be opened when the BIS II is being used. The outside air control is located behind the fireplace louver. Pull this lever to open. (see drawing OUTSIDE AIR CONTROL page 5)

The outside air kit must be installed according to the following guidelines:

1. The maximum length of duct is 20' (6.1 m). Duct length should be kept to a minimum.
2. The air intake register must not be installed more than 7' (2135 mm) above the base of the appliance.
3. The fresh air must come from outside the house. It must not draw air from the attic or from the basement.
4. Locate the outside register where it will be well away from automobile exhaust fumes, gas meters, or other vents.
5. The air intake register should be installed where it is not likely to be blocked by snow or exposed to extreme wind.
6. The duct and register may be installed above or below floor level.
7. Use only Security components.

HEARTH EXTENSION REQUIREMENTS:

The BIS II can be installed directly on a combustible or wood floor. HOWEVER, the floor of the hearth extension (the area in front of the unit) must be protected from sparks and heat by a non-combustible hearth extension. The minimum size of the protected area is 40" x 17" (1016 x 432 mm) extending in front of the loading door (see fig. A). The BIS II is certified for use with either of the following installations:

1. When installing the BIS II and the hearth extension directly on a combustible floor, it is REQUIRED that the hearth extension be a (7B302M) 0.047" thick sheet metal (40" x 17") (1016 x 432 mm) preform with a 1/2" (13 mm) air space purchased at Security Chimneys only. Once installed, it may then be covered by non-combustible materials (see fig. B).

OR

2. When installing the BIS II and the hearth extension on a non-combustible floor (concrete for example) or when installing the BIS II on a podium of a minimum of 3" (75 mm) from the floor, then the hearth extension (minimum size 40" x 17") MUST BE either:

- a. 0.018" thick sheet metal.
- b. Tile, marble or any other non-combustible material.

NOTE:

- 1) If installing on a raised base or raised hearth, a "z" shaped piece of metal is used to join the underside of the fireplace to the hearth extension (see fig. C).
- 2) Always install the hearth extension at least 3/4" under the BIS II fireplace.

OR

3. When installing the BIS II on a podium of a minimum of 4" (102 mm) from the floor, a raised hearth extension covered with marble can be made. This hearth extension must respect the dimensions shown on fig. D.

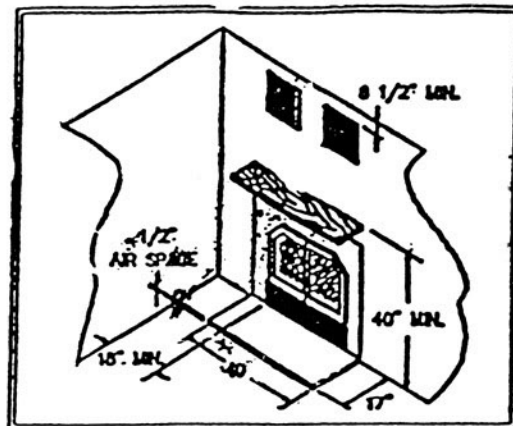


Fig. A

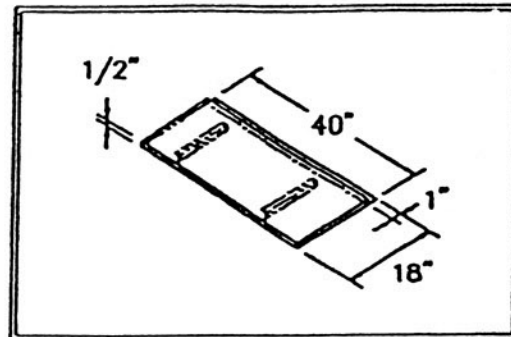


Fig. B

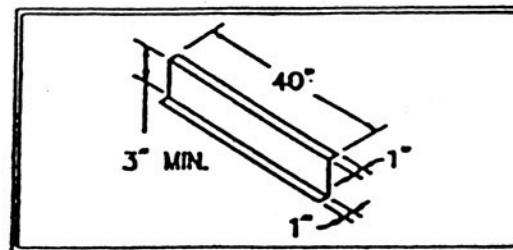


Fig. C

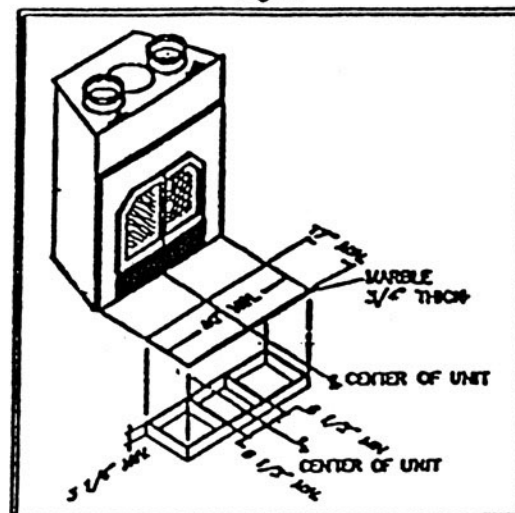


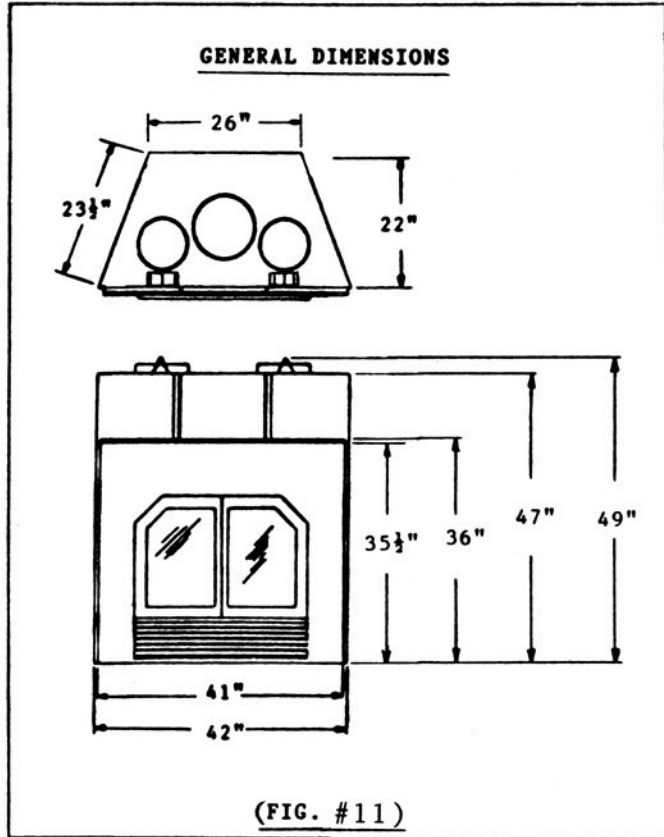
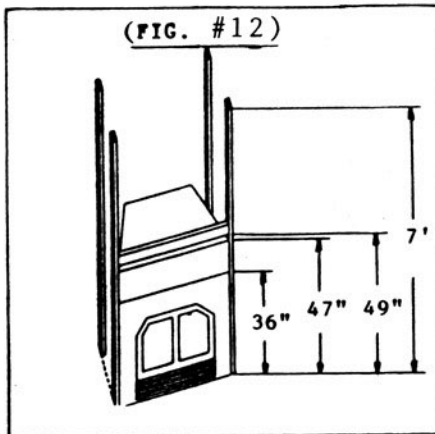
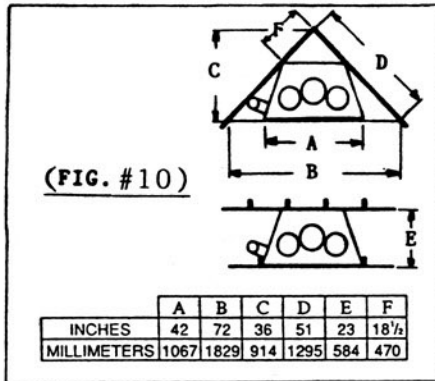
Fig. D

FRAMING, FACING AND MANTEL

The construction of the framing, facing, and mantel must be in accordance with these guidelines and illustrations.

FRAMING:

1. Frame the fireplace using 2" x 3" (50 x 75 mm) or heavier lumber.
2. **WARNING:** combustible material cannot be directly on top of the fireplace. This area must remain empty for a height of 7' (2135 mm) measured from the base of the appliance. Frame the fireplace with vertical studs at the sides of the fireplace running from floor to ceiling. (see fig.#12) The enclosure can be framed prior to installation, allowing 42"(1067 mm) wide and 23" (584 mm) deep. (see fig.#10) If combustible facing is to be used, position the studs back from the front edge of the fireplace a space the thickness of the facing material in order that the facing can be installed flush with the fireplace facing. Frame headers between the vertical studs only as follows:
 - Place 2" x 3" (50 x 75 mm) or 2" x 4" (50 x 100 mm) headers (see fig.#13 & 14) between the studs only along the upper part of the front, side and back faces. Do not put wood or any combustible material within the area above the fireplace.
 - Place headers only as required to support the facing and mantel, and place all headers on edge.

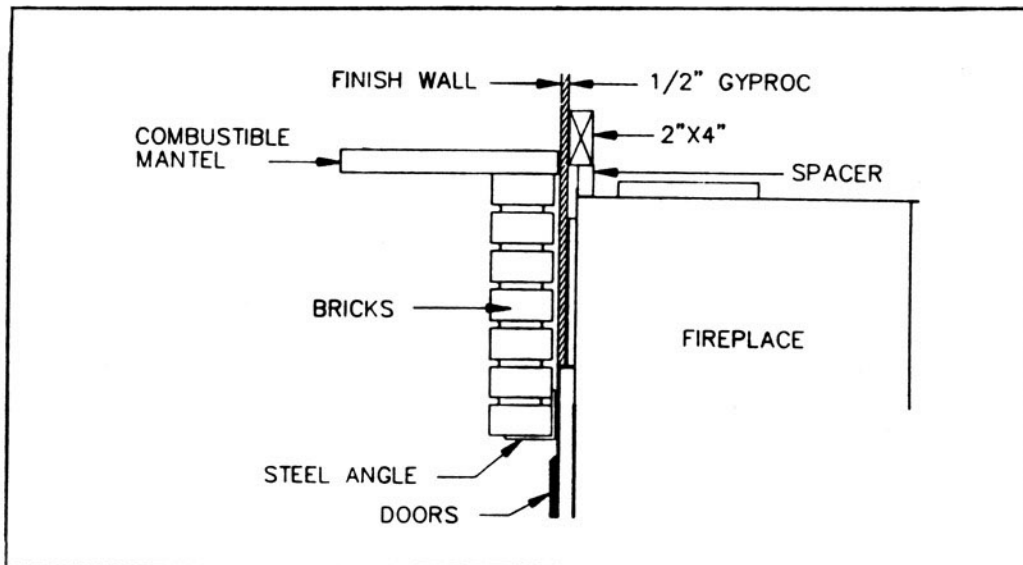
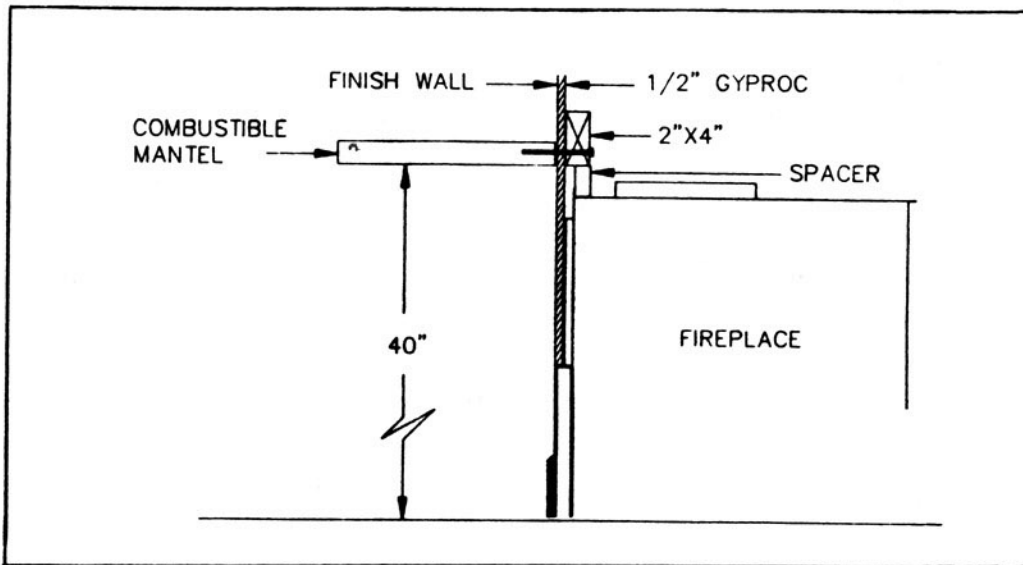


FACING:

1. Combustible material must be installed flush with the fireplace. It may not project in front of and on the fireplace (i.e. the steel faceplate of the BIS II.) (see fig.#13)
2. Non - combustible materials such as brick, stone or ceramic tile may project in front of and onto the fireplace facing. (see fig.#14)

MANTEL:

1. The mantel must be installed at least 40" (1016 mm) above the base of the fireplace and at least 6" (152 mm) away from any hot air outlet framing.



HOT AIR DUCTING

The BIS II comes with a duct kit consisting of one of the following:

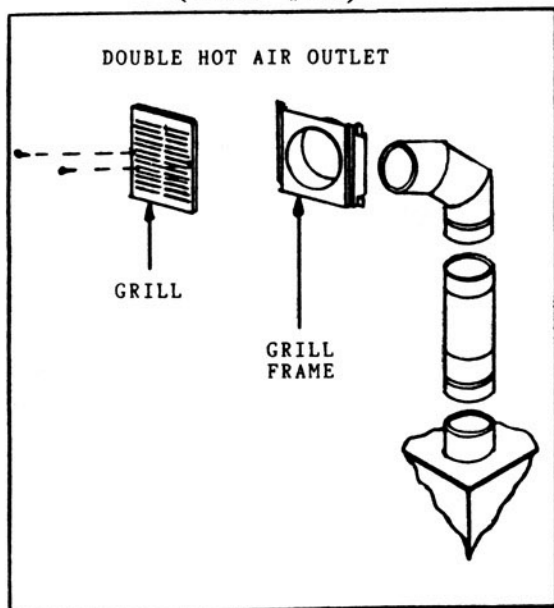
1. Double Hot Air Outlet
 - 2 - 8" I.D. double wall telescopic lengths
 - 2 - 8" I.D. double wall 90° elbow
 - 2 - Hot Air Outlet Assemblies (grill, grill frame) (see fig.#15)

OR

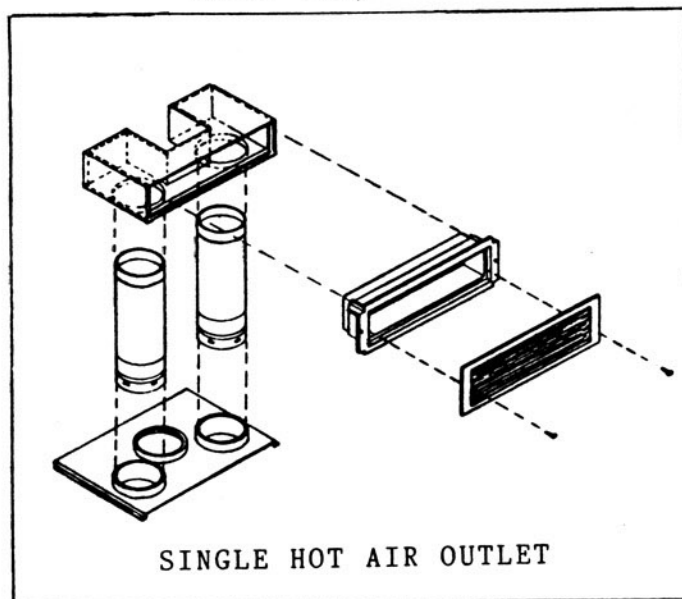
2. Single Hot Air Outlet
 - 1 Hot Air Outlet box including extra insulation strip. (see fig.#16)

The standard parts included are designed to enable the following installation:

(FIG. #15)



(FIG. #16)



Configuration

1. Double outlet
 - Elbow directly on the BIS II
 - Elbow + telescopic length: minimum
 - Elbow + telescopic length: maximum
2. Single outlet
 - Box directly on the BIS II
 - Box + telescopic length: minimum
 - Box + telescopic length: maximum

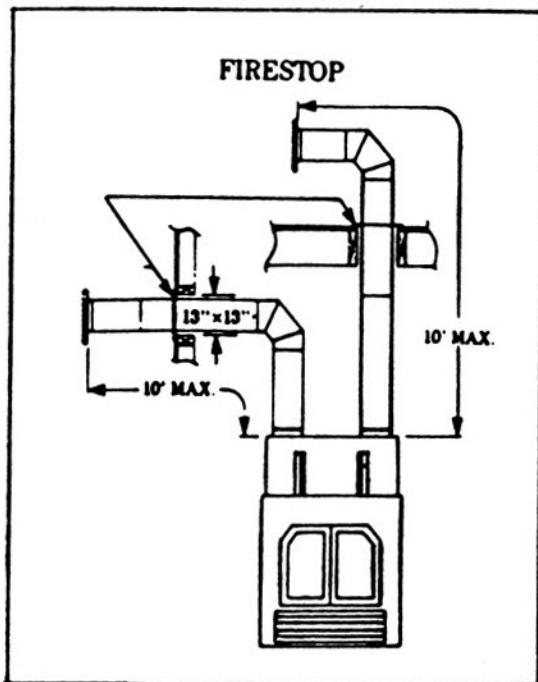
Grill Height*

- 4' 10" (1473 mm)
- 6' 1" (1854 mm)
- 7' (2135 mm)

- 4' 5" (1346 mm)
- 5' 9" (1753 mm)
- 6' 8" (2032 mm)

*Grill height to be measured to midpoint of grill from the base of the BIS II.

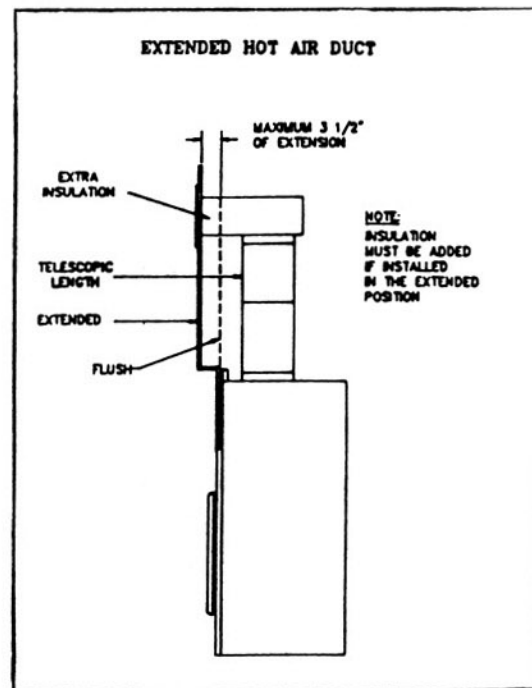
Each system is designed to be installed either flush with the front of the BIS II, or extended out slightly from the face of the fireplace (if installing with a brick or thick facing for example). To extend the double outlet system, it will be necessary to purchase two 7B26ZL2A's. To extend the single outlet, it is necessary to install the insulation strip provided with the system. A maximum of 3 1/2" (89 mm) of extension is provided by the single outlet system. (see fig.#18 next page)



(FIG. #17)

PART DESCRIPTION (AVAILABLE)

- 12" Length
- 24" Length
- 36" Length
- Firestop
- 90° Elbow
- 45° Elbow
- 2" - 5" Adjustable length
- 15" - 26" Telescopic length



(FIG. #18)

PART NO. FOR EASY ORDERING

- 8KL1
- 8KL2
- 8KL3
- 8KBF
- 7B26ZE90
- 7B26ZE45
- 7B26ZL2A
- 7B26ZLA

When installing the double outlet system, the hot air outlets can be installed in the same room as the fireplace, or one or both of the outlets can be installed in adjacent or upper rooms. Installing the ducts at different elevations will tend to exhaust more heat out of the higher outlet.(see fig.#17)

The duct system must be installed bearing in mind the following restrictions:

1. Maintain at least a 2" (50mm) clearance between the ducts and any combustible material; the required hole size is 13" x 13" (330 x 330 mm) for the duct itself.

Exception #1: For the grills, the framing can be 10 3/4" x 10 3/4" (275 x 275 mm) to provide the clearance as required by the integral spacers on the double outlet duct system.

Exception #2: For the single outlet the framing must be 8 1/4" x 32 1/4" (210 x 820 mm), or as required by the integral spacers. At no time should any combustible facing material such as paneling cover over any part of the grill face.

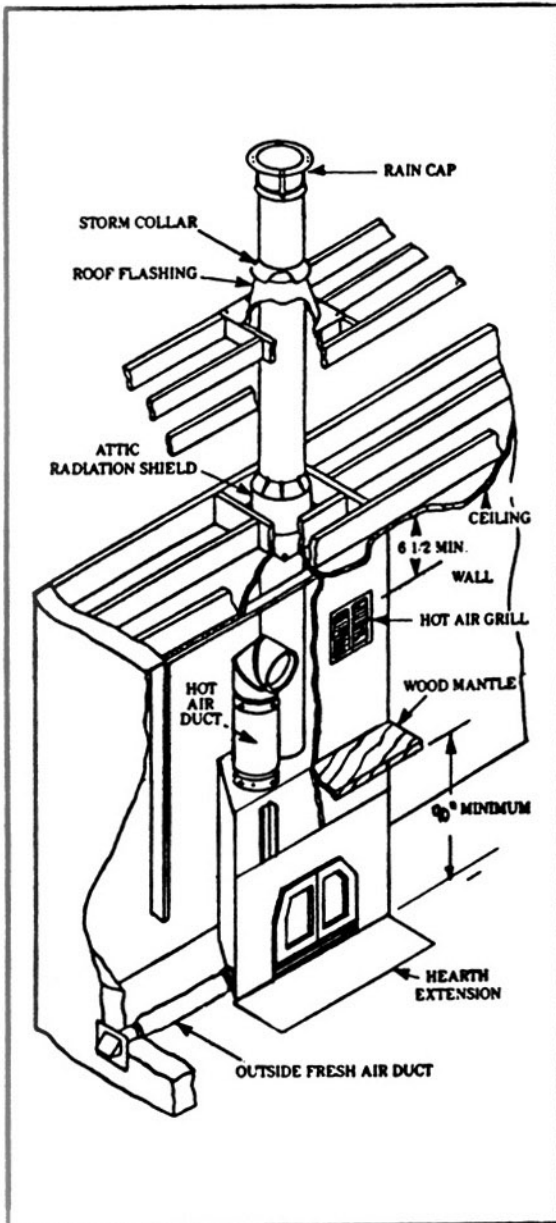
2. The minimum duct system height is the elbows (with grills), or the single outlet directly on the BIS II. Installing the duct at a lower height will cause the fireplace to overheat.
3. The maximum duct length is 10' (3 m).

4. **The maximum number of elbows in a run of duct is three (i.e. three/side) for the double outlet system, and two elbows per side for the single outlet.**
5. **Maintain at least 6 1/2" (160 mm) clearance from the outlet grill framing to a combustible ceiling, side wall, or mantel.**

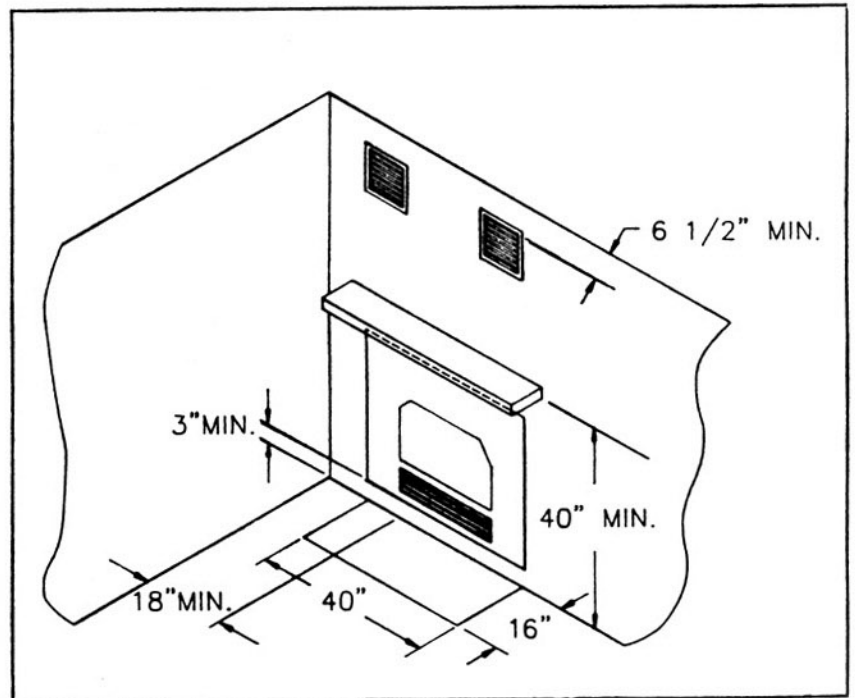
6. **When traversing a combustible wall or floor, a firestop must be installed at the wall or floor penetration. The required hole size 13" x 13" (330 x 330 mm).**
7. **Do not connect the outlets to a central heating system. Malfunctions of the heating system's fan will cause the fireplace to overheat. Furnace duct is only single wall, and not double wall as is required for the BIS's II hot air exhaust.**
8. **Use only Security double wall components and grills, as described in this manual. Other grills or registers, for example, may be too restrictive and may overheat the fireplace or ceiling.**
9. **Do not use insulated flexible ducts as they will overheat.**
10. **Do not use Tees or any other components that are specifically listed here.**
11. **All ducts must extend upwards or horizontally. Never try to route the ducting downwards over any amount of length.**
12. **The hot air outlet louvers must be installed with the louvers pointing downwards in order to prevent overheating adjacent ceilings.**
13. **If installing the single outlet system in the extended position, insulation must be added.**

DO NOT PLACE INSULATION OR ANY OTHER MATERIAL IN THE AIR SPACE AROUND THE CHIMNEY OR FIREPLACE. INSULATION PLACED ON OR AROUND THE FIREPLACE OR CHIMNEY MAY CAUSE ADJACENT WOOD TO OVERHEAT AND CATCH ON FIRE.

(FIG. #19)

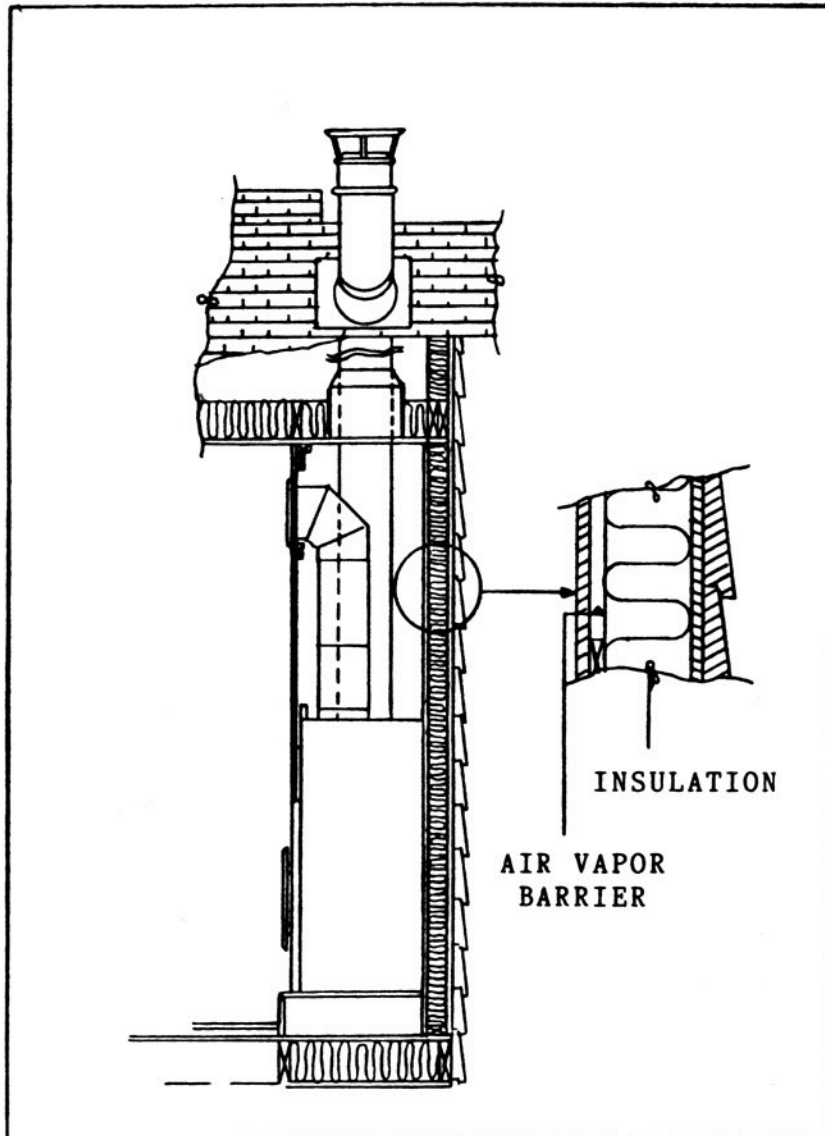


(FIG. #20)



INSULATED CHASE CONSTRUCTION

(FIG. #21)

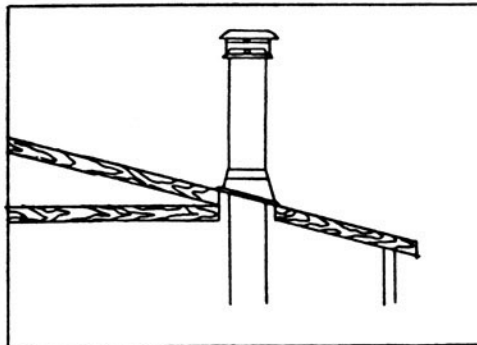


CHIMNEY INSTALLATION NOTES

GENERAL NOTES

1. If possible install an interior chimney as it will provide better performance. In areas with continuous temperatures below 18°C (0°F), the use of an exterior chimney increases the likelihood of operating problems such as low draft, high rate of creosoting, and poor startup characteristics. Exterior chimneys are also prone to downdrafting and flow reversal. Installations which are located low in the house such as in a basement, in combination with outside chimneys, are especially prone to flow reversal.
2. A chimney venting a fireplace shall not vent any other appliance.
3. **The BIS II fireplace is not listed for use with a masonry chimney or with a chimney liner.**
4. The minimum chimney height, including fireplace, is 12' 6" (3.8 m) for vertical chimney.
5. ASHT chimney:
The maximum chimney height supported by the fireplace is 10' (3 m). If additional height is required, use a roof support at 30' (9 m) intervals.
6. S-2100 chimney:
The maximum chimney height supported by the fireplace is 6' (1.8 m). If additional height is required, use a roof support at 30' (9 m) intervals.
7. The chimney must extend at least 3' (915 mm) above its point of contact with the roof and at least 2' (610 mm) higher than any wall, roof or building within 10' (3000 mm) of it. (see fig.#22)

(FIG. #22)



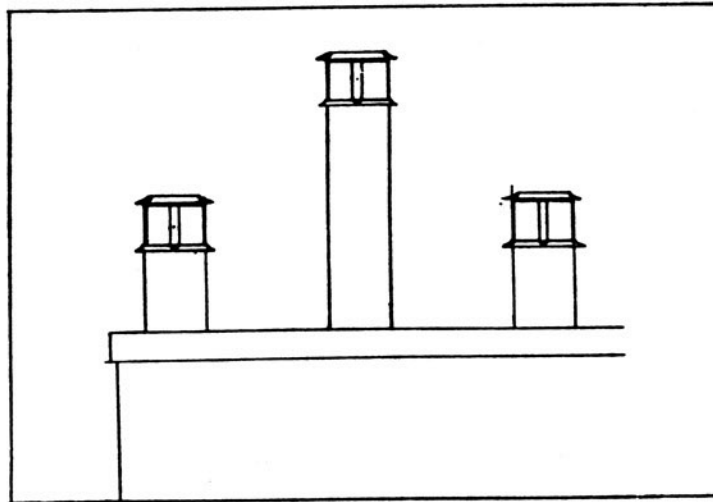
8. If the chimney extends higher than 5' (1500 mm) above the roof, it must be secured using a roof brace or guide wires.
9. A rain cap must be installed on top of the chimney. Failure to install a rain cap may cause the fireplace to corrode.

10. Cut and frame square holes in all floors and the roof to provide 2" (50 mm) of clearance between the chimney and any combustible material. Do not fill this 2" (50 mm) space with any material.
11. Portions of the chimney which may extend through accessible spaces shall be enclosed in all cases to avoid personal contact with the chimney and damage to the chimney.

MULTIPLE TERMINATIONS

For installations where more than one chimney is located in the same chase or within the same general area, we suggest that their terminations be separated by at least 16" (410 mm) horizontally and 18" (460 mm) vertically. This separation is to prevent smoke migrating from one chimney to another. (see fig.#23)

(FIG. #23)



BIS II FIREPLACE INSTALLATION INSTRUCTION

Move the fireplace into place.

Install the outside air assembly.

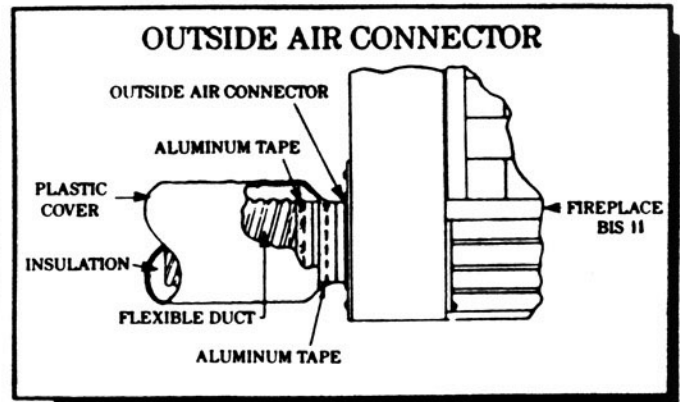
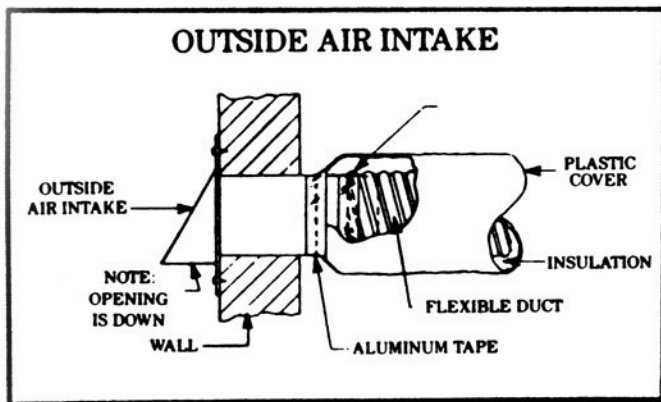
Install the floor protector. Refer to the section Hearth Extension Requirements and make sure the gap between the fireplace and the hearth extension is sealed. (Refer to page 16).

OUTSIDE AIR INSTALLATION (optional)

If an Outside Air Kit is to be installed, install it now, observing also the guidelines given in the section on Outside Air Kit Requirements. Make a 4 1/4" (110 mm) hole in the outside wall of the house at the chosen location. From outside, place the outside air register in the hole (open side down) and fasten the register to the wall with screws as shown. (see fig. # 24). Slip the duct into the insulated sleeve. Place the insulated flexible duct over the register tube and over the fireplace's outside air connector. (see fig. # 25) At each end, carefully pull back the insulation and plastic cover exposing the flexible duct. Using the aluminum tape provided, wrap the tape around the joint between the flexible duct and the air inlets. Carefully push the insulation and plastic cover back over the duct. Using aluminum tape, fasten the plastic cover in place.

(FIG. #24)

(FIG. #25)



CHIMNEY INSTALLATION INSTRUCTION

STRAIGHT INSTALLATION

Cut the holes in the ceiling, floor and roof where the chimney will pass. (see fig. #26) Use a plumb bob to line up the center of the holes. The hole size is:

CHIMNEY MODEL	HOLE SIZE
ASHT	13 3/8" x 13 3/8" (40 x 40 mm)
S-2100	15 1/8" x 15 1/8" (384 x 384 mm)

From below install a firestop radiation shield (RS) in each floor through which the chimney passes. At the attic level, install an attic radiation shield (RSA) from below in place of the firestop radiation shield (RS). (see fig.#26 & 27)

NOTE: In cold climate locations, we recommend the installation of an Insulated Firestop where the chimney penetrates the house's thermal barrier. (See details on page 32).

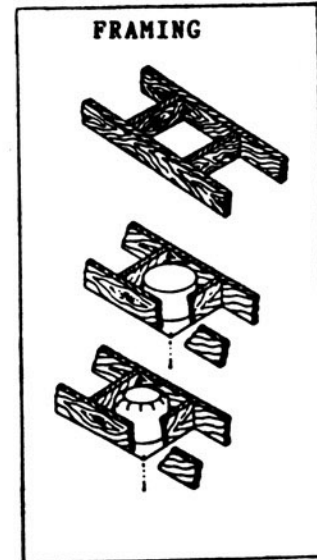
Place the first chimney length on the fireplace. Turn the chimney clockwise to lock it in place. Continue installing chimney lengths until you reach the desired height. For all other installations, proceed as follows:

Put the roof flashing in place. Seal the joint between the roof and the flashing with roofing pitch. (see fig.#28) For sloping roofs, place the flashing under the upper shingles and on top of the lower shingles. Nail the flashing to the roof using roofing nails. Place the storm collar over the chimney and the flashing and caulk this joint using silicone caulking. (see fig.#28) Tighten with the bolt supplied.

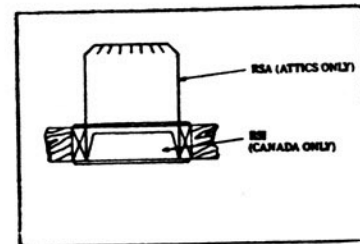
ROOF DOWN SLOPE HOLE SIZE

SLOPE	ASHT	S-2100
0	13 3/8" (340 mm)	15 1/8" (384 mm)
2/12	13 5/8" (345 mm)	15 3/8" (390 mm)
4/12	14 1/8" (359 mm)	16" (406 mm)
6/12	15" (380 mm)	17" (432 mm)
8/12	16 1/8" (410 mm)	18 1/4" (465 mm)
10/12	17 1/2" (445 mm)	19 3/4" (502 mm)
12/12	19" (483 mm)	21 3/8" (545 mm)

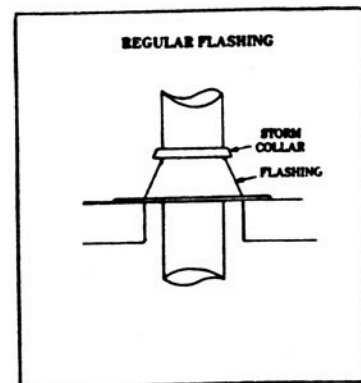
Fit the rain cap to the top of the chimney. Secure it tightly in place. Wash the roof flashing with a solvent or vinegar, then paint it with rust-proof paint.



(FIG. #26)



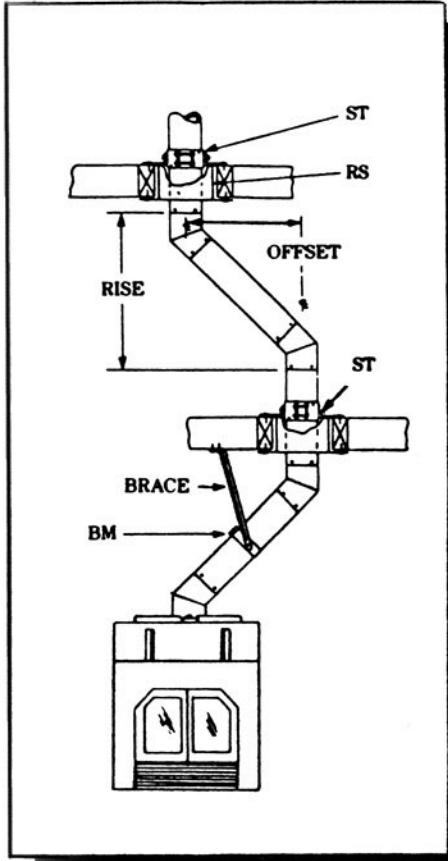
(FIG. #27)



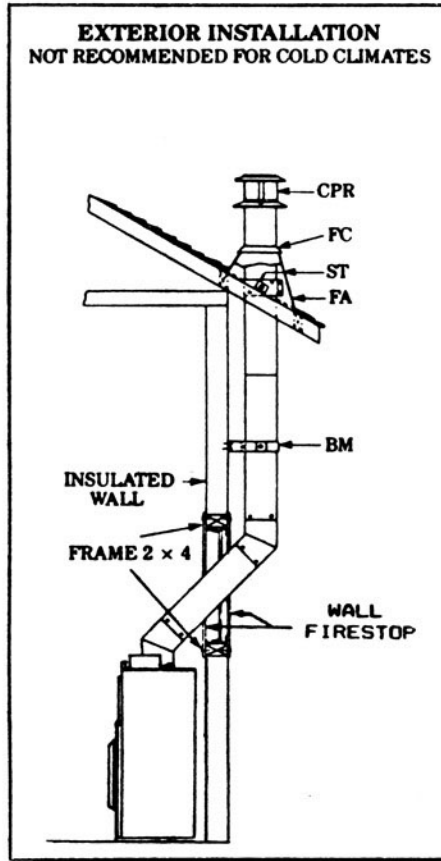
(FIG. #28)

TYPICAL OFFSET INSTALLATIONS

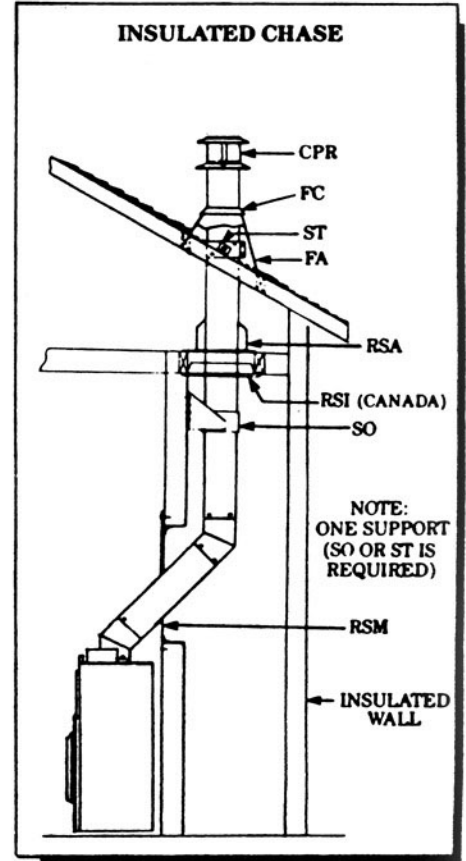
(FIG. #29)



(FIG. #30)

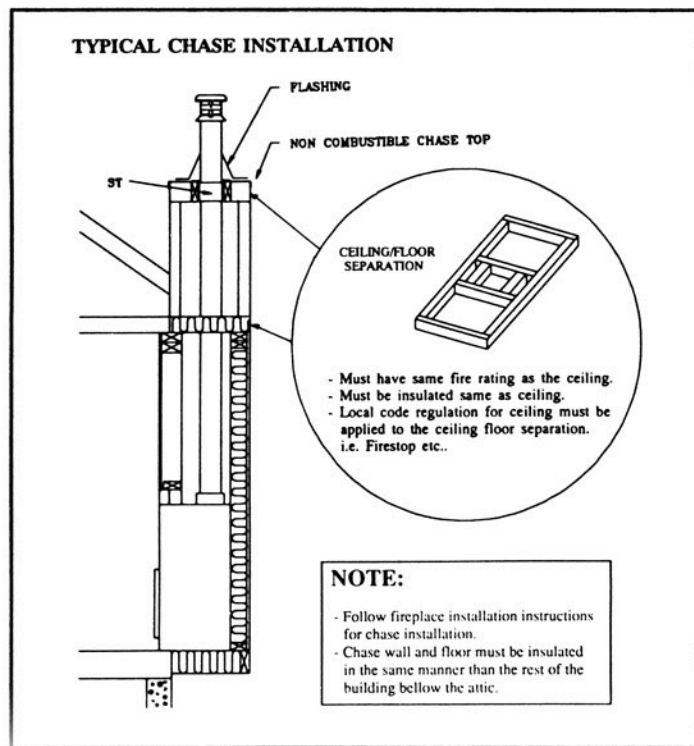


(FIG. #31)



TYPICAL CHASE INSTALLATION

(FIG. #32)



OFFSET CHIMNEY INSTALLATION (see figs. #29, 30, 31, p.28)

If it is necessary to offset the chimney in order for it to pass through an upstairs closet or to clear a joist, do this by using insulated elbows.

The minimum chimney height (including fireplace) when using elbows is:

OFFSET	NUMBER OF ELBOWS	MINIMUM HEIGHT
15°	2	14' (4.3 m)
15°	4	15' (4.6 m)
30°	2	17' (5.2 m)
30°	4	21' (6.4 m)
45°	2	19' (5.8 m)
45°	4	24' (7.3 m)

After arriving at the location requiring the elbow, proceed as follows:

1. Install the insulated elbow. Turn it in the required direction and fasten it with the 3 metal screws provided.
2. Install the necessary lengths to achieve the required offset. Turn the chimney lengths clockwise to lock them together then secure them using three (3) 1/2" (13 mm) screws. Resupport the chimney at the required intervals. If penetrating a wall, install a wall radiation shield.
3. Use another elbow to turn the chimney vertically. Again secure the elbow using three (3) 1/2" (13 mm) metal screws.
4. Cut a hole for the chimney in the ceiling. Use a plumb bob to line up the center of the hole. Frame this hole using 2" x 4" (50 x 100 mm) wood.
5. From below, install a Radiation Shield in this opening.
6. Install a Roof Support (ST) in the ceiling.
7. Now continue with the regular installation.

OFFSET & RISE CHART 7" ASHT/S - 2100

ELBOW	ONE LENGTH BETWEEN ELBOWS				
	8 (200)	12 (305)	18 (455)	24 (610)	36 (915)
15° Offset	3 (76)	4 (102)	5 3/4 (146)	7 1/4 (184)	10 1/4 (260)
Rise	17 1/2 (445)	21 1/2 (546)	27 1/4 (692)	33 (838)	44 1/2 (1130)
30° Offset	5 3/4 (146)	7 3/4 (197)	10 3/4 (273)	13 3/4 (349)	19 3/4 (502)
Rise	22 3/4 (578)	26 (660)	31 1/4 (794)	36 1/2 (927)	47 (1194)
45° ASHT Offset	7 1/2 (191)	10 1/4 (260)	14 1/2 (368)	18 3/4 (476)	27 1/4 (692)
Rise	21 1/2 (546)	24 1/4 (616)	28 1/2 (724)	32 3/4 (832)	41 1/4 (1048)
45° S - 2100 Offset	16 (406)	18 3/4 (476)	23 (584)	27 1/2 (699)	32 3/4 (908)
Rise	28 (711)	31 (787)	35 1/4 (895)	39 1/2 (1003)	48 (1219)

Dimension: 16 = 16 inches
(406) = 406mm

45° S - 2100 offset is made up of a 30° and 15° elbow.

OFFSET & RISE CHART 7" ASHT / S-2100

ELBOW	TWO LENGTHS BETWEEN ELBOWS				
	8 & 36 (200 & 915)	12 & 36 (305 & 915)	18 & 36 (455 & 915)	24 & 36 (610 & 915)	36 & 36 (915 & 915)
15Ω Offset	12 (305)	13 1/4 (337)	14 3/4 (375)	16 1/4 (413)	19 1/4 (489)
Rise	51 1/4 (1302)	55 1/4 (1403)	61 (1549)	66 3/4 (1696)	78 1/4 (1988)
30Ω Offset	23 1/2	25 1/2	28 1/2	31 1/2	37 1/2
Rise	52 3/4	56 1/4	61 1/2	66 3/4	77
45Ω ASHT Offset	33 3/4 (832)	35 1/2 (902)	39 3/4 (1010)	44 (1118)	52 1/2 (1334)
Rise	45 3/4 (1162)	48 3/4 (1238)	52 3/4 (1340)	57 (1448)	65 1/2 (1664)
45Ω S-2100 Offset	40 3/4 (1035)	43 1/2 (1105)	47 3/4 (1213)	52 (1321)	60 1/2 (1537)
Rise	55 3/4 (1365)	56 3/4 (1442)	61 (1549)	66 1/4 (1657)	73 3/4 (1873)

Dimension: 55 3/4 = 55 3/4 inches
(1365) = 1365 mm

45Ω S-2100 offset is made up of a 30Ω and 15Ω

ANGLED WALL RADIATION SHIELD (Insulated RSMI 30° or 45°) (Regular RSM 30° or 45°)

(see fig.#32)

When traversing a combustible wall with the chimney at a 30° or 45° angle, an angled firestop or wall radiation shield must be installed. Only one is required.

In cold climate locations (such as Canada and Northern USA) we recommend that you use the insulated wall radiation shield since it will maintain the home's thermal barrier.

RSM and RSMI

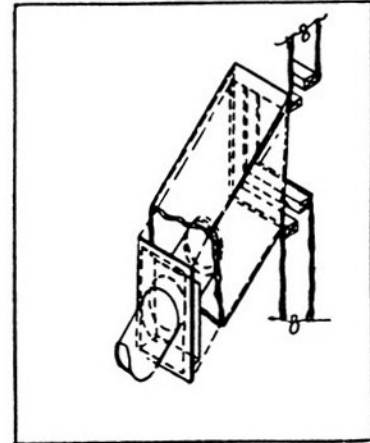
CHIMNEY	ANGLE	HOLE SIZE
7" ASHT	30°	13 3/8" x 33 1/4" (365 x 918 mm)
	45°	13 3/8" x 23 1/4" (365 x 629 mm)
7" S-2100	30°	15" x 38 1/4" (416 x 1019 mm)
	45°	15" x 28 3/4" (416 x 699 mm)

INSULATED RADIATION SHIELD (RSI) (see fig.#33)

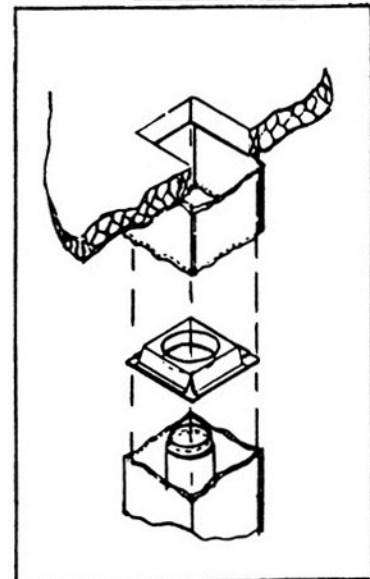
In cold climate locations an insulated firestop may be installed at the ceiling level. This will minimize heat loss around the chimney at this location.

The RSI should be installed from below and a RSA installed from above.

(FIG. #32)



(Fig. #33)



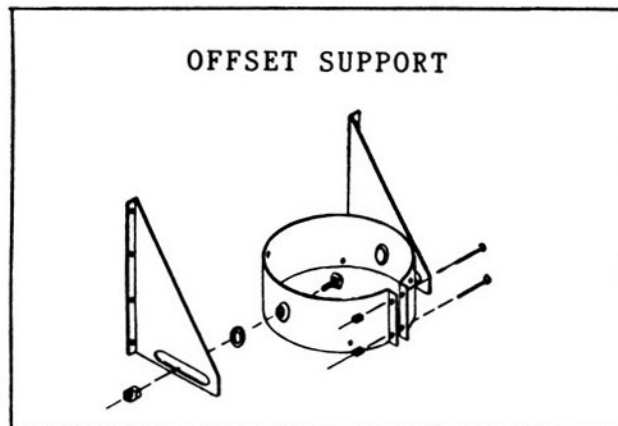
OFFSET SUPPORT INSTALLATION (SO) (see fig.#34)

This support is used to support a chimney above an offset. When the chimney offset is used to traverse a wall, this support may be used on the wall to support the chimney. The maximum height of chimney supported is:

ASHT 7"	24' (7.3 m)
S-2100 7"	12' (3.65 m)

Install the chimney according to the fireplace Installation Instructions. Install the support as follows:

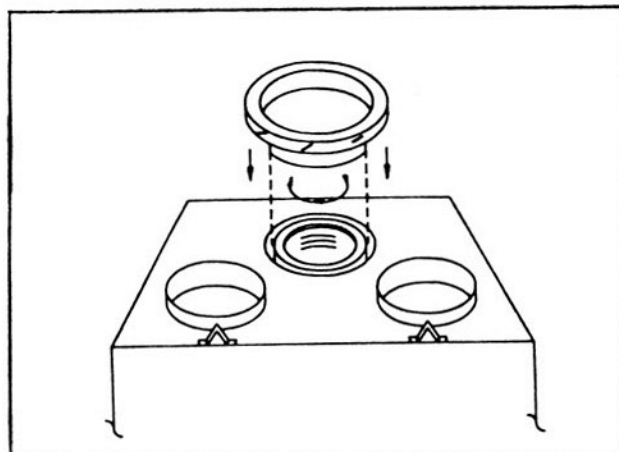
1. Assemble the support.
2. Slip the support over the chimney to a convenient location. Be sure that the support is attached to a solid wall and not merely to gypsum board or aluminum siding.
3. Tighten the collar around the chimney then secure it by screwing four metal screws through the holes in the collar and into the chimney.
4. Attach the support brackets to the wall using 8 - 3" (75 mm) nails or no. 8 - 1 1/4" (31 mm) screws.
5. Continue installing the chimney according to the Chimney Installation Instructions.



(FIG. #34)

CHIMNEY ADAPTOR (S-2100) (see fig.#35)

The fireplace is normally supplied with a chimney adaptor suitable for the ASHT Chimney. If you want to install a S-2100 chimney, an S-2100 adaptor is available. (Cat. no. 7UCA)



(FIG. #35)

ROOF SUPPORT INSTALLATION (ST)

This support has two possible uses:

1. It may be used on a floor, ceiling or roof above an offset to support the chimney above the offset.
2. It may be used on a floor, ceiling or roof as a supplementary support when the chimney height exceeds that permitted for the fireplace.

Installation Instructions:

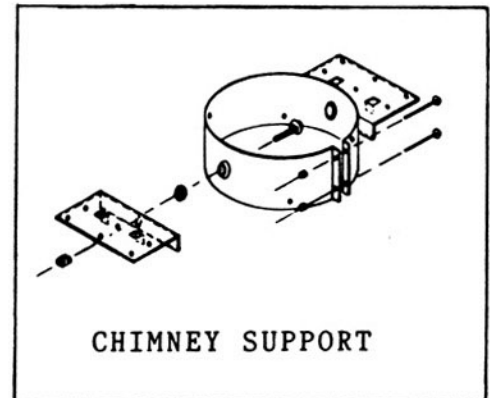
With the chimney extending through the holes in the roof, ceiling and/or floor, and the radiation shield in place, (the shield is for ceilings and floors only) proceed as follows:

CHIMNEY ASHT 7" S-2100 7"

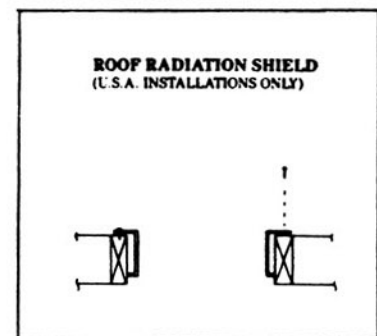
Hole size: 13 3/8" x 13 3/8" 15 1/8" x 15 1/8"
(340 x 340 mm) (384 x 384 mm)

1. Slip the support (see fig.#36) over the stainless steel chimney until its brackets rest on the roof or floor. Tighten the collar around the chimney, then secure it by screwing the four metal screws through the holes in the collar and into the chimney.
2. Center the chimney and nail or screw the support to the roof or floor using 12 - 2 1/2" (63 mm) nails or no. 8 - 1 1/4" (31 mm) wood screws.
3. Continue installing the chimney according to the chimney installation instructions.

(FIG. #36)



(FIG. #37)



(U.S.A. ONLY): If the roof support is installed at the roof, install the support only after first installing the roof radiation shield (RST) that comes with the flashing. (see fig.#37)

NOTE: It may be necessary to cut slots in the upper portion of the radiation shield so that it will fit around the support's brackets.

COMPLETING THE FIREPLACE INSTALLATION

1. Frame the unit according to the guidelines given in the section on framing. (page 17)
2. Install the hot air ducts, referring to the guidelines in the section on Hot Air Duct Installation.(Pg.19)

Individual Hot Air Ducts:

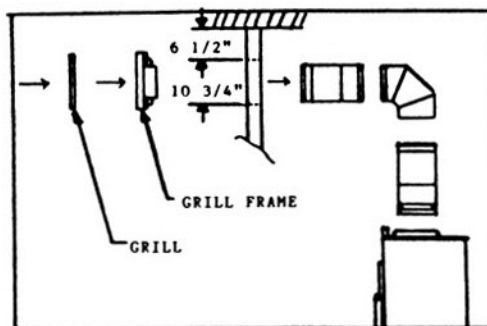
Separate the hot air grill assembly into two parts; the grill and frame by removing the two screws. Attach the grill frame to the 90° elbow. Put aside the grill until the facing has been completed. Complete the framing for the hot air ducts as follows. Frame two 10 3/4" x 10 3/4" (275 x 275 mm) openings for the hot air ducts, locating the framing at least 6 1/2" (160 mm) away from adjacent wall or ceiling. Once the framing is complete, remove the grill frames and complete the facing and mantel. To finish the installation, install the grill using the two screws provided. The louvers must point downwards, to direct the hot air towards the floor, and away from a ceiling. (see fig.#38)

Single Hot Air Duct:

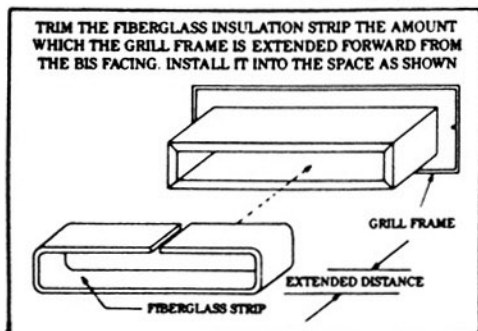
Install the hot air outlet box in its position on top of the ducts on the BIS II. If extension is to be used, slide the grill frame forward to its final extension. (see fig.#39) Complete the framing for the BIS II, installing headers at the top and bottom of the box so that the headers rest against the spacers of the box. The existing framing from the sides of the BIS II will extend up to the sides of the box. Once framed, the grill frame can now be removed from the box by pulling it forward. If the outlet is to be installed extended into the room, it is necessary to add insulation to the grill. Remove the grill from the box. The piece of fiberglass included is suitable for full extension. If the box is to be fully extended, use all the insulation. Otherwise cut a strip of insulation the size of the amount extended into the room, and install it into the space between the two walls of the grill. (see fig.#40) Install the facing material onto the framing, and trim the facing at the headers which frame off the hot air outlet. Replace the grill frame with the louvers pointing downwards, and secure it on each side with the screws provided. If the louver is to be removed for painting, remove it by pulling out at the top, and then lifting it up and out.

3. Review the installation making sure all clearances have been met and that the fireplace has been properly installed.
4. The installer should record his name and address in the installation instructions (as required by CSA B365), and the instruction manual should be left at the location with the user.

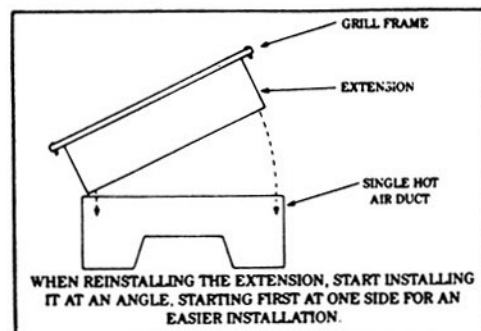
(FIG. #38)



(FIG. #39)



(FIG. #40)



APPENDIX

SPECIFICATIONS:

Weight:	290 lbs (131.5 kg)
Height:	47" (1219 mm) Top of spacer 49"
Width:	42" (1067 mm)
Depth:	23 1/2" (584 mm)
Chimney Weight:	ASHT: 8.3 lb/ft (133 kg/m ²)
	S - 2100: 15 lb/ft (240 kg/m ²)

CLEARANCES REQUIRED TO COMBUSTIBLES

These are the minimum recommended clearances for a safe installation.

Sidewall:	18" (457 mm)
Ceiling:	7' (2135 mm) measured from the base of the appliance
Fireplace enclosure:	Bottom: 0" Sides: 0" Back: 0" Top: keep area above the fireplace clear to 7' (2135 mm) height measured from the base of the unit except as noted in "FRAMING"
Chimney:	2" (50 mm)
Mantel:	40" (1016 mm) from the base of the BIS II, and 6" (152 mm) to hot air duct framing.
Hot Air Duct:	2" (50 mm) except at register frame
Hot Air Duct grill frame:	as determined by the integral spacers. Hole size is 10 3/4" x 10 3/4" (275 mm x 275 mm)
Hot Air Grill:	6 1/2" (160 mm) to an adjacent ceiling or mantel, measured from the duct framing (6" from the grill) (152 mm)
Outside Air Duct:	0"

Note:

A wall, perpendicular to and in front of the fireplace front must be at least 18" (457 mm) from the fireplace opening. A wall at 60 degrees to the front and starting at the fireplace's outer edge is permitted. Projections behind this wall (shaded area) are permitted. (see fig. #41)

(FIG. #41)

