GENERAL INSTRUCTIONS

CONSOLIDATED DUTCHWEST STOVES & FIREPLACE INSERTS

For Use in Canada

Consolidated Dutchwest

COMPREHENSIVE INSTALLATION & OPERATING INSTRUCTIONS

Pertaining to All Current Consolidated Dutchwest Stoves & Fireplace Inserts Covering the Following Freestanding Models: FA209CL, FA224ACL, FA224CCL, FA264CCL, FA288CCL, FA455 and Inserts 7A, 7B, 8A, 8B, 9B, and 9C.

STOVE	Heat Output Range (Btu/Hr)
FA209CL	9,000 to 25,600
FA224ACL	7,200 to 30,000
FA224CCL	7,000 to 30,600
FA264CCL	6,600 to 26,700
FA288CCL	8,400 to 38,700
FA455	8,700 to 60,300

The information contained in these instructions is intended to:

(1) Make certain you properly install your stove,

(2) Make all features and stove functions clear and comprehensible, and

(3) Help you maximize your stove's performance and efficiency.

Read these instructions carefully before starting. Your stove must be installed in accordance with all local and applicable national building codes. The information that follows assumes you will correctly follow instructions. Note that the stove must be properly assembled and installed or the safety listing will be void. Be sure to read the "Do's and Don'ts of Operating Your Stove" in the back of this booklet, which contains many helpful tips on safe stove installation and operation.

Save These Instructions.

CAUTION: Your Consolidated Dutchwest stove has been designed to be very safe to operate. Nevertheless, all heating devices have the potential to be dangerous if not operated properly. Therefore, it is of the utmost importance that you follow all assembly, operating, maintenance, installation, and fire-starting instructions to ensure the safest stove operation possible.

The detail in these instructions may seem excessive. Don't let it intimidate you. We have made our instructions detailed because we want you to operate your stove safely. Follow these instructions carefully, and your Consolidated Dutchwest stove will provide you with many years of dependable, economical, and comfortable heating.

Unless you are an expert, you should consult a professional installer to advise you or to do your installation. While the assembly of your stove is very easy, there are many safety factors involved in its installation and maintenance. We have tried to set out guidelines in as clear a manner as possible, but this is not a substitute for expert knowledge. Remember, like a furnace, a stove is a serious heat producer, and has the potential to be dangerous. The installation instructions should be used as a guide for the knowledgeable person, rather than a course for the beginner. Your safety and well-being depend on proper installation and maintenance and your safety is more important than anything else.

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ASSEMBLY INSTRUCTIONS

Included with these General Instructions is a separate assembly instruction booklet that applies to your particular stove or insert. If you are unable to locate these instructions or if they have been misplaced, contact the Service Department or your Dealer for a replacement copy.

INSTALLATION INSTRUCTIONS

Most safety problems associated with stoves are caused by either improper installation or creosote build-up in the chimney connector or chimney. Observe all clearances called for in these instructions. You must not make wishful assumptions as to your proposed installation. Take due care and you will enjoy many years of safe, effective operation.

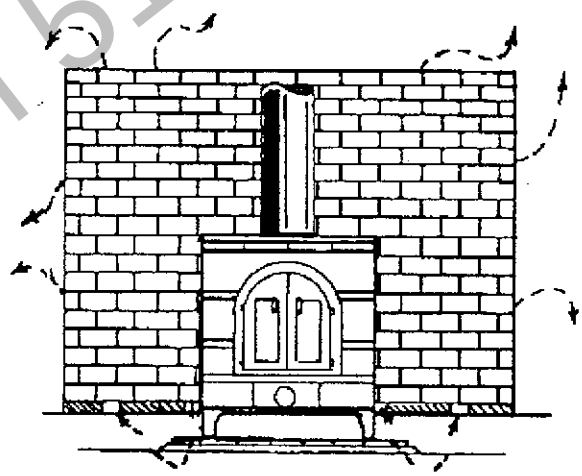
We have designed each Consolidated Dutchwest stove to be installed in a variety of ways. This built-in versatility means you have maximum flexibility in determining how to install your stove. All models may be installed in the freestanding mode, or in a corner, or as a fireplace adapter. (A fireplace adapter is a freestanding stove set in front of a code compliant masonry fireplace and vented into the existing masonry chimney.) The FA224CCL, FA264CCL, and FA288CCL may also be installed as fireplace inserts. Insert installations do not use legs, and include carefully fitted cast iron surround panels to cover the fireplace opening, providing a handsome finished look.

INSTRUCTIONS FOR FREESTANDING INSTALLATIONS

For each model we have had Warnock Hersey Professional Services Ltd. undertake testing to the ULC S627 standard to determine the minimum permissible distance that each stove may be located to combustible back and side walls. They have also established clearances using optional "Clearance Reduction Kits" which mount on the stove back. In this way we have tried to provide a variety of safe alternatives for installation.

Clearances may often be further reduced by building wall shields according to the guidelines set forth in the Canadian Standards Association manual, CAN/CSA-B365, a national standard accepted by many local and Provincial building code inspectors. Your local Dealer or building official may have a copy.

When locating your stove, consider safety, convenience, traffic flow, and the fact that the stove will need a chimney and chimney connector. Your stove should be located away from doors and hallways and in an area which allows necessary clearances.



A wall protector built of brick, spaced 25 mm. (1") out from the wall. Note the clearance at the bottom for air circulation, and also the open sides and top which allow the air to move freely. Air circulation is a critical factor in a wall shield's ability to lower clearance requirements.

Establishing Combustibles

There are several sets of clearances, determined by the materials closest to your intended installation. We have included here a brief section intended to answer the most frequently asked questions about combustibles and non-combustibles. If in doubt, contact your local building inspector for an expert opinion. **Note**: all clearances are measured from the stove body to the combustible surface.

Q: What's the difference between a combustible, a protected combustible, and a non-combustible?

Combustible: This is a surface that will burn if exposed to the high heat of a stove. Typically such walls are wood or sheetrock over wood studs. Brick over combustible materials such as wood studs also constitutes a combustible wall. Z-Brick, wallpaper and plastic clearly fall into this category.

Protected Combustible: This is a combustible surface which has been protected by the addition of a protective shield constructed according to the specifications published in CAN/CSA-B365. All

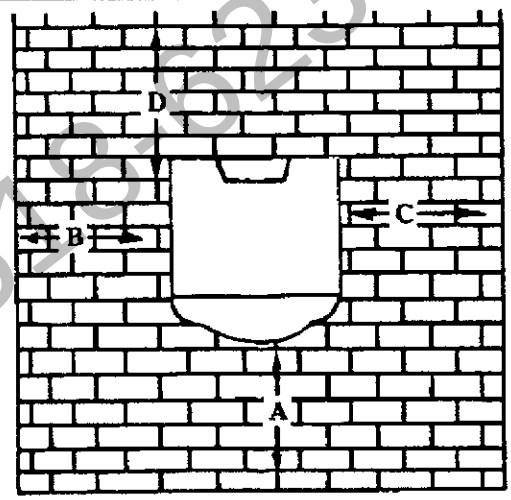
shields require a minimum 25 mm. (1") air space between the wall and the shield. The air space is crucial, since it keeps the heat conducted through the shield from passing to the adjoining combustible surface. It is also crucial that there be openings at the top and bottom of the shield, so that air can circulate through the shielded space. Otherwise, trapped air in this space can become extremely hot and will transfer heat to the adjacent combustible walls. Contact your Dealer or local building inspector for details on approved wall shield construction.

Non-Combustible: This is a non-flammable wall such as cinder block with no combustible material behind it or within the wall. Basement walls frequently meet this standard.

Q: What about regular brick walls? An often asked question is whether a brick wall is non-combustible or at least a protected combustible. The answer is usually no. Brick interior walls in houses are usually classified as combustible, unless it is certain that there's no combustible material behind the brick. While it's true brick won't burn, it conducts heat. Brick walls must be treated as combustible unless the homeowner can be sure the brick isn't covering combustible materials.

FLOOR PROTECTORS — MINIMUM DIMENSIONS

For freestanding corner and conventional installations, each of our stoves requires floor protection, unless the floor is made entirely of concrete or another form of solid masonry over earth. Such floor protection should be constructed of 9.5 mm. (3/8") non-combustible millboard (approved for this application by a listing or certifying agency) or the equivalent. You may also wish to check with the your local building inspector to see if a layer of brick or stone or other material is an acceptable equivalent under local ordinances. They may allow, for example, a layer of brick or stone over a thin sheet of steel, bordered and fully secured by quarter round wood molding. Spaces between bricks should be mortared.



A mortared brick floor protector, showing front, left, right, and rear measurements.

The clearances listed below indicate the number of inches floor protection should extend from each side of your stove and the minimum total floor size required for each model. (Note: Stoves with side loading doors require more floor protection on one side of the stove than on the other. You may feel that having the same amount of floor protection on each side of the stove looks better, in which case you can add to the required width.) **Do not reduce any side protection extensions under any circumstances.**

TABLE 1 FREESTANDING MINIMUM HEARTH PROTECTOR DIMENSIONS

Stove	A	B	C	D	width	depth
FA209CL	457 mm. (18")	203 mm. (8")	203 mm. (8")	203 mm. (8")	740 mm. (29")	1190 mm. (47")
FA224CCL	457 mm. (18")	457 mm. (18")	203 mm. (8")	203 mm. (8")	1200 mm. (48")	1100 mm. (43")
FA224ACL	457 mm. (18")	457 mm. (18")	203 mm. (8")	203 mm. (8")	1200 mm. (48")	1040 mm. (41")
FA264CCL	457 mm. (18")	457 mm. (18")	203 mm. (8")	203 mm. (8")	1300 mm. (52")	1100 mm. (43")
FA288CCL	457 mm. (18")	457 mm. (18")	203 mm. (8")	203 mm. (8")	1350 mm. (54")	1150 mm. (45")
FA455	457 mm. (18")	457 mm. (18")	152 mm. (6")	51 mm. (2")	1270 mm. (50")	990 mm. (39")
All Inserts	406 mm. (16")	406 mm. (16")	203 mm. (8")	N.A.		

Distance from: A: Stove Front B: Stove Left Side C: Stove Right Side D: Stove Back

PROTECTING YOUR WALLS

Stoves can safely be placed closer to protected walls than to combustible ones. If you don't have enough space to meet the necessary wall clearances, or should you wish to minimize the area utilized by your stove installation, you have three options. They are: (1) install a Clearance Reduction Kit, (2) install back wall protection, or (3) install both a Clearance Reduction Kit and wall protection.

Clearance Reduction Kits

Clearance Reduction Kits are the easiest and least expensive approach. When installed on the back of a stove, they significantly reduce the clearance to combustible back walls. The regular clearances and the reduced clearances possible with the installation of these kits are shown. NOTE: Do not use home made substitutes for the Clearance Reduction Kits. Use only Clearance Reduction Kits provided by Consolidated Dutchwest.

TABLE 4 CLEARANCE REDUCTION KITS

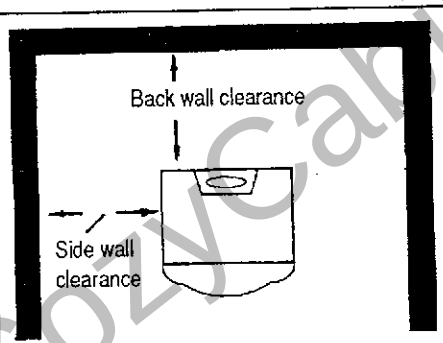
Stove	Kit#	Regular Back wall Clearance	Reduced Back wall Clearance
FA209CL	HS209	762 mm.(30")	457 mm.(18")
FA224ACL	HS224A	889 mm.(35")	432 mm.(17")
FA224CCL	HS224C	775 mm.(30.5")	457 mm.(18")
FA264CCL	HS264	775 mm.(30.5")	457 mm.(18")
FA288CCL	HS288	737 mm.(29")	457 mm.(18")
FA455	HS455	482 mm.(19")	381 mm. (15")

These kits attach to the stove back and can be installed in 15 minutes.

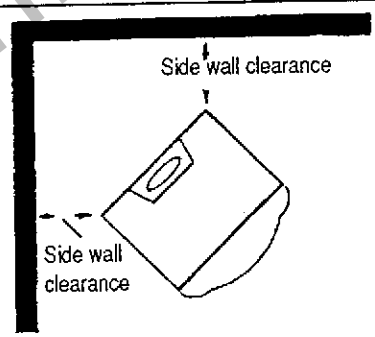
When using a Clearance Reduction Kit and venting up (as opposed to venting out the back), chimney connector protection is also required. All models require chimney connector protection starting where the connector is attached to the stove's flue collar. Chimney connector shields are also available from Consolidated Dutchwest.

TABLE 3 FREESTANDING MINIMUM CLEARANCES TO WALLS

Stove Model#	Side Walls-all installations top vent	Side Walls-all installations rear vent	Back Wall top vent	Back Wall rear vent	Back Wall with Clearance Reduction top vent	Back Wall with Clearance Reduction rear vent	Corner Installation (top exit only) w/o Cl. Red.	Corner Installation (top exit only) w/Cl. Red.
FA209CL	711 mm.(28")	635 mm.(25")	762 mm.(30")	686 mm.(27")	457 mm.(18")	N/A	686 mm. (27")	508 mm.(20")
FA224ACL	660 mm.(26")	660 mm.(26")	889 mm.(35")	889 mm.(35")	432 mm.(17")	N/A	610 mm.(24")	356 mm.(14")
FA224CCL	711 mm.(28")	610 mm.(24")	775 mm.(30.5")	813 mm.(32")	457 mm.(18")	N/A	711 mm.(28")	381 mm.(15")
FA264CCL	711 mm.(28")	610 mm.(24")	775 mm.(30.5")	813 mm.(32")	457 mm.(18")	N/A	711 mm.(28")	381 mm.(15")
FA288CCL	584 mm.(23")	584 mm.(23")	737 mm.(29")	787 mm.(31")	457 mm.(18")	N/A	584 mm.(23")	381 mm.(15")
FA455	482 mm.(19")	482 mm.(19")	482 mm.(19")	482 mm.(19")	381 mm.(15")	254 mm.(10")	406 mm.(16")	356 mm.(14")



Parallel Installation, showing how to measure clearances to side and back walls.



Corner Installation showing how to measure clearances to side walls.

CORNER INSTALLATIONS

It's not unusual to want to position a stove in a corner. Frequently such positioning can minimize the floor area allocated for a stove.

Clearances in corner installations can be minimized by using a Clearance Reduction Kit with a "wing" set attached. This combination of shields will cut corner clearances as shown in Table 3. (Wing sets are panels that bolt to both sides of the Clearance Reduction Kit and shield the walls in the corners of the room). Wing sets are available for all Consolidated Dutchwest stoves.

Wall Protectors

There are many fine wall protectors commercially available today which have been tested and listed for use with woodstoves. Such wall protectors will allow for reduced clearances to the back wall. Depending on the construction method used, the clearance reduction will vary. Wall protectors should be built to the specifications set forth in CSA-B365.

Combining a Clearance Reduction Kit with a Protected Wall

When a Clearance Reduction Kit is combined with a properly protected wall, significant further reductions in rear and/or side clearance requirements are often possible. Contact your local Dealer or building inspector for details on how to combine a Clearance Reduction Kit with a wall protector for maximum clearance reduction.

CONFIGURING YOUR CHIMNEY CONNECTOR PROPERLY

In planning your installation there are several rules about chimney connectors which must be observed. Chimney connectors are subject to their own set of clearances or those set by the manufacturer's instruction. When venting straight up it's usually easy to maintain the required clearances but if you vent up and then over you need to remember that clearances to walls, ceiling and floor must be observed. When a Clearance Reduction Kit is used it is necessary to shield the chimney connector with connector shields.

Remember: Your chimney connector should always be rising. Over a brief distance (2 feet or less) your chimney connector may be level, but in the main, it should be rising to assure proper draft. It must never dip.

It is important to differentiate between chimney connector and chimney. Chimney connector is the single wall pipe which connects the stove to the chimney. The chimney itself is a masonry or prefabricated structure enclosing the flue. Chimney connectors are used only to make the initial connection from the stove to the chimney. They must not pass through an attic or roof space, closet or similar concealed space, or floor or ceiling. They must not pass through a combustible wall or partition unless done using the instructions in CSA-B365 or your local building inspector.

TABLE 4 CHIMNEY CONNECTOR CLEARANCES

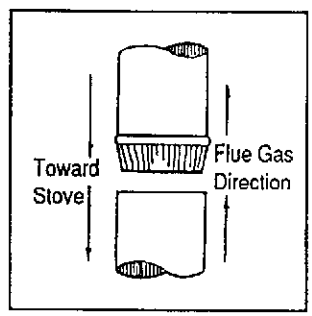
	A	B	C	D	E	F	G
FA209CL	737 mm. (29")	762 mm. (30")	813 mm. (32")	686 mm. (27")	432 mm. (17")	762 mm. (30")	559 mm. (22")
FA224ACL	826 mm. (32.5")	826 mm. (32.5")	648 mm. (25.5")	826 mm. (32.5")	368 mm.(14.5")	826 mm. (32.5")	394 mm. (15.5")
FA224CCL	699 mm. (27.5")	914 mm. (36")	838 mm. (33")	813 mm. (32")	305 mm. (12")	914 mm. (36")	482 mm. (19")
FA264CCL	699 mm. (27.5")	914 mm. (36")	838 mm. (33")	813 mm. (32")	305 mm. (12")	914 mm. (36")	482 mm. (19")
FA288CCL	660 mm. (26")	838 mm. (33")	737 mm. (29")	838 mm. (33")	356 mm. (14")	838 mm. (33")	533 mm. (21")
FA455	356 mm. (14")	686 mm. (27")	495 mm. (19.5")	686 mm. (27")	254 mm. (10")	686 mm. (27")	356 mm. (14")

Chimney connector clearances required for various installations:

A - Top exit, to back wall
B - Top exit, to side wall
C - Top exit, corner installation, to side walls
D - Rear exit, to side wall
E - Top exit, with Clearance Reduction Kit/Connector Shields, to back wall
F - Top exit, with Clearance Reduction Kit/Connector Shields, to side wall
G - Top exit, corner installation, with Clearance Reduction Kit/ Connector Shields, to side walls

Chimney Connector Assembly

The chimney connector must be the same or greater nominal diameter as the flue collar provided with the stove model, and no less than 24 gauge cold rolled steel. Do not use aluminum or galvanized chimney connector. It cannot properly withstand the extreme temperatures of a wood fire. Do not use chimney connector as a chimney. It is important for the connector to be assembled so that any condensation which may occur within it remains in the connector and does not drip from the joints. This is done by inserting the first connector section into the flue collar or the oval-to-round adapter.

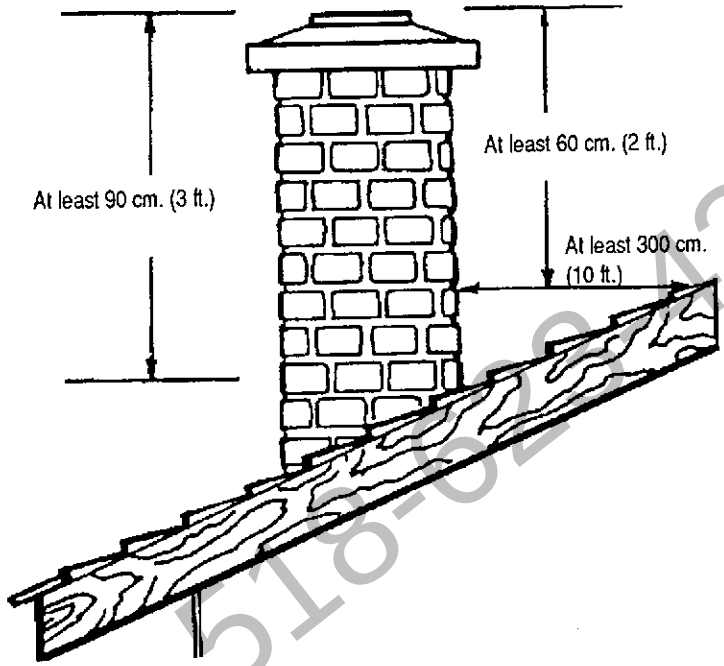


Each successive link should be inserted the same way. In other words, each piece of chimney connector should go into the piece below it. The smoke will follow the path of least resistance and travel up the center of the connector. All joints should be secured with three sheetmetal screws. Otherwise, in the event of a creosote fire, the chimney connector may vibrate apart.

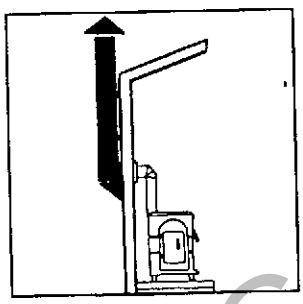
CHIMNEY

Your stove may be connected to a lined masonry chimney or a listed high temperature prefabricated residential type heating appliance chimney. DO NOT connect it to a chimney serving another appliance. To do so will affect the safe operation of both appliances.

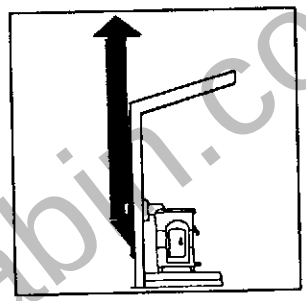
The chimney must be the required height above the roof or other obstruction for safety and for proper draft operation. The requirement is that the chimney must be at least 90 cm. (3 feet) higher than the highest point where it passes through the roof and at least 60 cm. (2 feet) higher that the highest part of the roof or structure that is within 300 cm. (10 feet) of the chimney, measured horizontally.



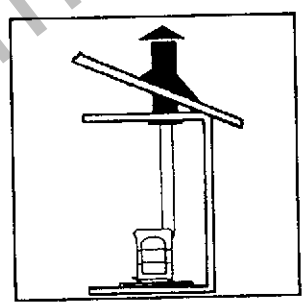
There are four basic ways to vent a freestanding stove:



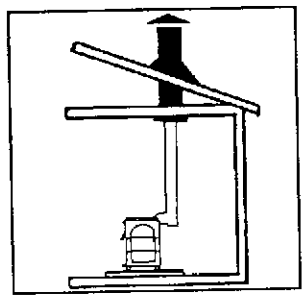
(1) off the top and through a wall



(2) Out the back and through the wall



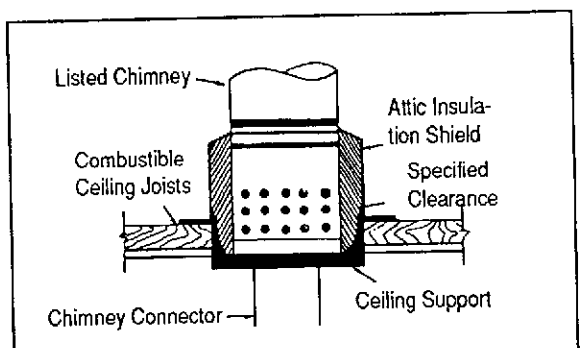
(3) Off the top and through the roof



(4) Out the back and through the roof

Connection to a Prefabricated Chimney

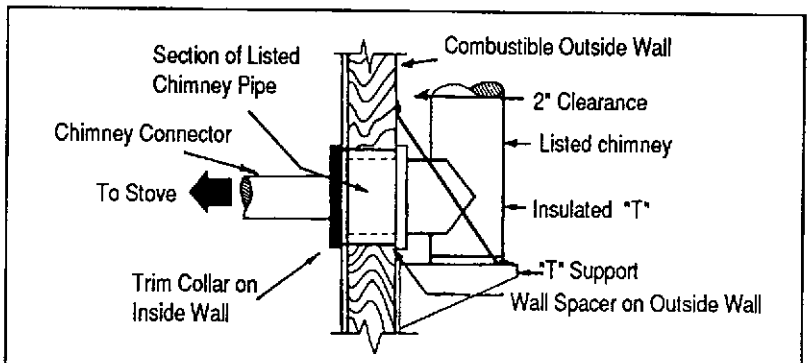
When a metal prefabricated chimney is used, the manufacturer's installation instructions must be followed precisely. The chimney must be one tested and listed for use with solid fuel appliances to the high temperature (650 C) chimney standard, ULC S629. You must also purchase and install (from the same manufacturer) the ceiling support package or wall pass-through and "T" section package, firestops (when needed), insulation shield, roof flashing, chimney cap, etc. Be sure to check local codes before proceeding with your installation. Maintain the proper clearance to the structure as recommended by the manufacturer. This clearance is usually



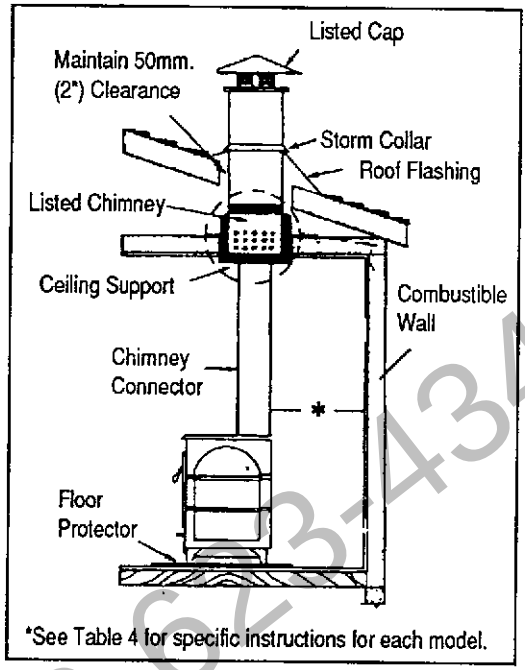
DETAIL OF CONNECTION TO PREFABRICATED CHIMNEY WITH AN ATTIC INSULATION SHIELD

a minimum of 50 mm. (2"), although it may vary by manufacturer or for certain components.

There are basically two methods of metal chimney installation. One method is to install the chimney inside the residence through the ceiling and the roof. The other method is to install an exterior chimney that runs up the outside of the residence. The illustrations may not look exactly like the system you purchase, but they demonstrate the basic components you will need for a proper and safeinstallation.



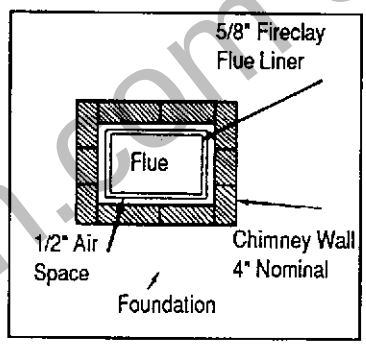
DETAIL OF CONNECTION TO A PREFABRICATED CHIMNEY PASSING THROUGH A COMBUSTIBLE WALL

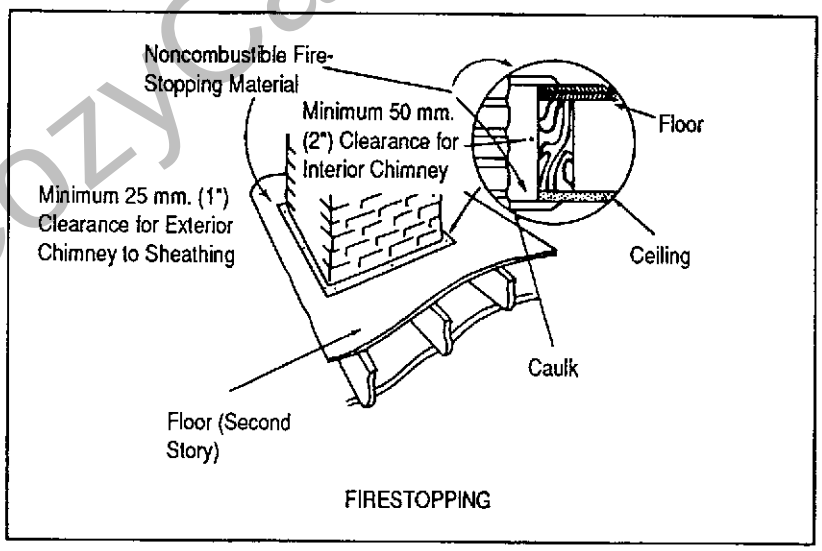


*See Table 4 for specific instructions for each model.

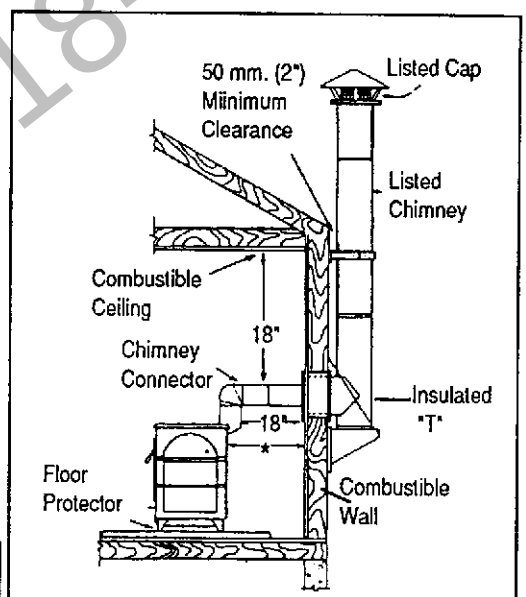
Connection to a Masonry Chimney

If the stove is to be connected to a masonry chimney, the chimney should be examined for cracks, loose mortar, other signs of deterioration, and blockage. Check to make sure the chimney has a liner; do not use an unlined chimney. The liner, often made of clay tile, is fitted into the chimney passageway and provides a sealed route through which the exhaust will pass. It can be difficult to look into a fireplace chimney to see the liner. Usually it begins well above the fireplace opening at the point where the stack narrows. If your chimney is not lined, we recommend having it professionally relined. The stove should not be installed until it is determined that the chimney is safe for use. Since an



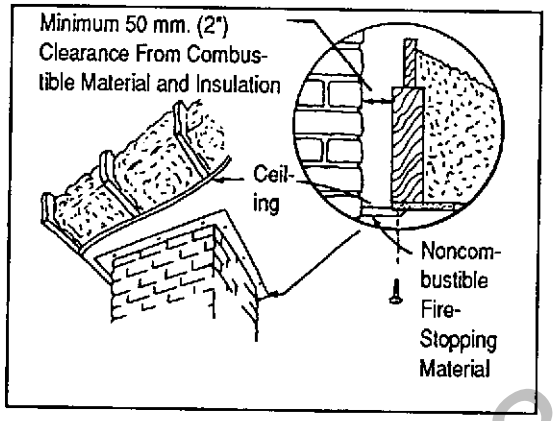


FIRESTOPPING



* See Table 3 for specific instructions for each model.

oversized flue contributes to the accumulation of creosote, the size of the flue should be checked to determine that it is not too large for the stove. As a rule, chimney areas up to twice or 2-1/2 times that of the flue outlet will perform satisfactorily. For all Consolidated Dutchwest stoves, except the Extra Large Convection Heater (model FA288CCL) and Sequoia (model FA455), the stove can vent into a 200 mm. x 200 mm. (8" by 8") masonry flue or a 150 mm. (6") round chimney flue. For the FA288CCL and FA455, the stove can vent into a 200 mm. x 300 mm. (8" by 12") masonry or a 200 mm. (8") round chimney flue. If the cross-sectional area of your masonry chimney is larger than twice to 2-1/2 times the flue outlet, we recommend installing a metal or other type of approved chimney liner which reduces the effective chimney volume, thereby improving stove performance.

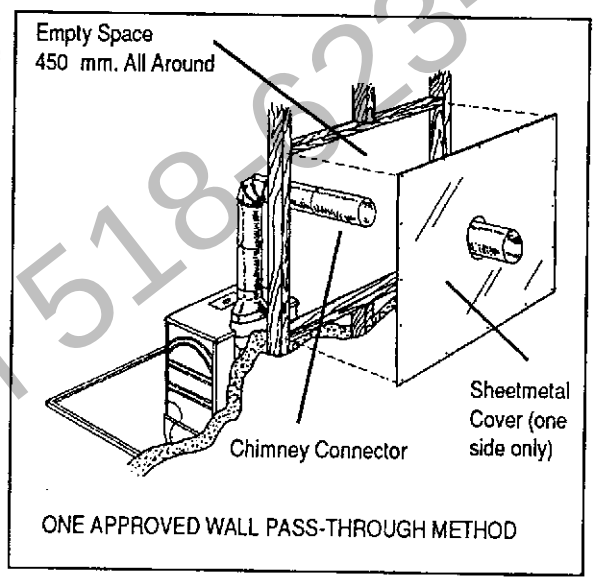


WALL PASS-THROUGHS

Whenever possible, design your installation so that the chimney connector does not pass through a combustible wall. If you are considering a wall-pass through in your installation, be sure you check with your building inspector before you begin.

The Canadian Standards Association (CSA) has established guidelines for passing chimney connectors through combustible walls. Many building code inspectors follow these guidelines when approving installations.

The illustration shows one CSA approved method. All combustible material in the wall or partition is cut away from the single connector a sufficient distance to provide the required 450 mm. (18") clearance. This space must remain empty. A flush-mounted sheetmetal cover may be used on one side only. If covers must be used on both sides, each cover must be mounted on non-combustible spacers at least 25 mm. (1") from the wall. See your local building inspector or CSA-B365 for other approved methods.

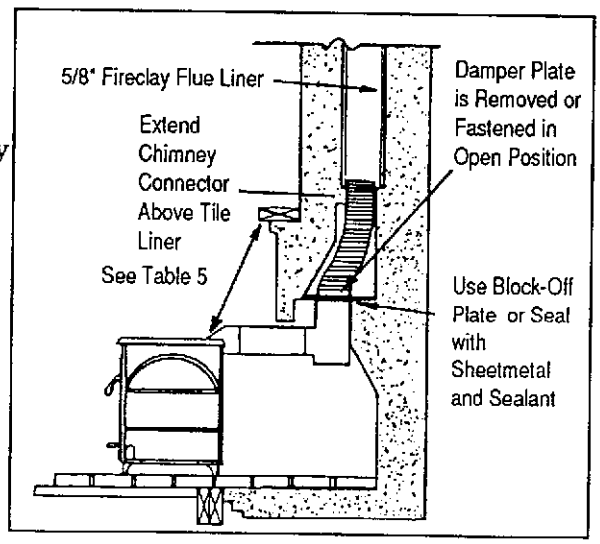


ONE APPROVED WALL PASS-THROUGH METHOD

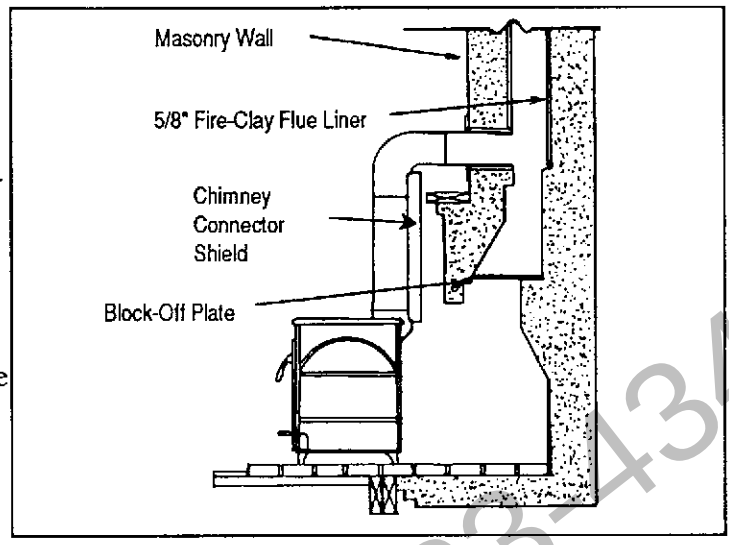
FIREPLACE ADAPTER INSTALLATION

Because 'Fireplace Adapter' installation is a technical term, let's start by defining it. It means a freestanding installation, mounted on legs but without a shroud, installed in a code compliant masonry fireplace, and utilizing the existing masonry chimney. It is increasingly common to install stoves in existing fireplaces. This can make sense because frequently it is easier and less expensive than installing a new chimney. As well, fireplaces are often sited in appropriate locations for stoves. Each Consolidated Dutchwest stove has been tested for installation in code-compliant fireplaces. You must, however, proceed with caution.

Older fireplaces, which predate building codes, particularly may be unsafe. They should always be inspected by a competent person such as your Dealer or a competent chimney sweep to confirm their safety. They may



recommend changes or repair work. This must be done before you install your stove. On newer fireplaces, such concerns are lessened but not eliminated. An inspection should be made and the condition of the chimney should be confirmed as being acceptable. Safety always comes first.



There are two common fireplace adapter installations. The most common is to position the stove on the hearth and vent out the back with the chimney connector first entering the fireplace opening, then turning up 90° into the chimney and making a positive connection with the first flue tile liner. A block-off plate seals the chimney, generally at the damper area. The second type has the stove also sitting on the hearth but with the chimney connector venting straight up in front of the fireplace and then turning a full 90° and entering the chimney 600 mm. – 1200 mm. (2 – 4 feet) above the fireplace opening directly into the chimney liner. Venting from the back will usually make for a neater installation, but the latter installation will produce a bit more heat since the chimney connector will radiate some additional heat. **In either case the chimney must be sealed to eliminate the loss of heat and draft pressure.**

Making a Positive Connection

When installing a stove into a masonry chimney, it is essential that the chimney connector and the chimney be properly connected and fully sealed. In most fireplace adapter installations the stove is vented from the back into the fireplace opening with a block-off plate fitted in place of the fireplace damper or, if the damper is not readily removable, just under it. Positive connection kits, complete with block-off plate and sealant are available from Consolidated Dutchwest. The plate should have a circular hole which corresponds to the size of the chimney connector, so the chimney connector may pass through, after which the connector must be inserted into the first flue tile liner. All seams between the block-off plate and the chimney and between the block-off plate and the chimney connector should be sealed with furnace cement, silicone caulk, or other appropriate sealant.

Q: Why is it important to make such a secure, positive seal? There are three reasons. A poorly sealed chimney installation will cause (1) substantial heat loss, (2) a significant reduction of the stove's draft pressure, and (3) possible leakage of combustion gasses in an improperly drawing chimney. Since the primary goal of most stove installations is to provide heat, you will be invariably more satisfied with your stove's output if the chimney is properly sealed. A reduction in chimney draft, due to a poorly sealed chimney connection, is not always apparent. Frequently a stove in such a circumstance will burn wood readily at high heat outputs with excellent results and appear to be operating perfectly. However, at low heat outputs or when burning coal, the draft will often be too weak to sustain a prolonged, hot fire. Proper sealing of all chimney connector and chimney connections will usually remedy this problem.

In planning a fireplace adapter installation there are several dimensions to take into account. They are: distance from the sides of your stove to right and left side walls; distance from sides of your stove to decorative side trim extending from the face of your fireplace; and the distance from the top of your stove to your mantel. In all cases we have established minimum distances to combustible surfaces.

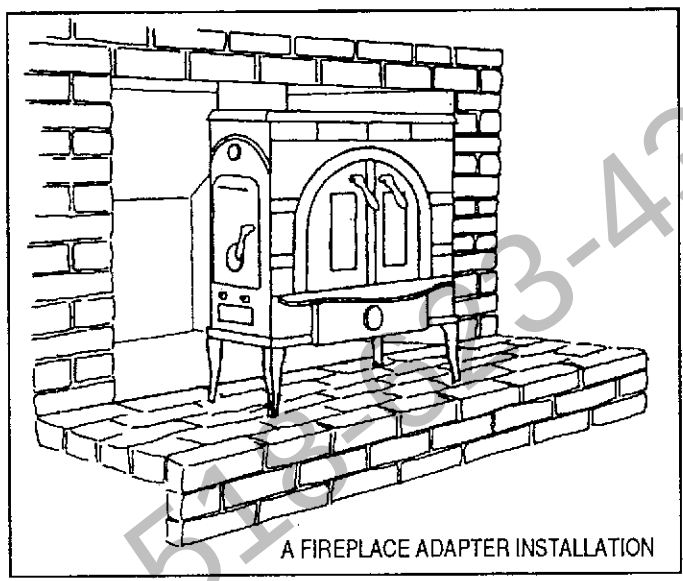
TABLE 5 FIREPLACE ADAPTER CLEARANCES

Stove Model	Mantel	Side Walls	Side Facing (Both Sides)
FA209CL	508 mm. (20")	787 mm. (31")	305 mm. (12")
FA224ACL	610 mm. (24")	813 mm. (32")	508 mm. (20")
FA224CCL	508 mm. (20")	787 mm. (31")	305 mm. (12")
FA264CCL	508 mm. (20")	787 mm. (31")	305 mm. (12")
FA288CCL	508 mm. (20")	787 mm. (31")	305 mm. (12")
FA455	610 mm. (24")	482 mm. (19")	203 mm. (8")

Adjusting the Height of Your Stove

Your stove has been tested with the legs provided. However, you may wish to raise or lower your stove by using different height legs which are available from Consolidated Dutchwest. Frequently, people will lower the height of their stoves so that the flue outlet in the fireplace adapter installation will be able to clear the top of a low fireplace opening. In using taller legs there are no restrictions. However, in using the lower legs, your hearth must be completely non-combustible, such as masonry over earth. **Inserts, because they do not use legs at all, also must be used only on totally non-combustible hearths.**

Hearth Extensions for Fireplace Adapter Installations



A FIREPLACE ADAPTER INSTALLATION

Normally a fireplace hearth will be wide enough to accommodate the minimum protected floor dimensions required for an adapter stove installation. However, the depth may be insufficient to fully protect the area in front of your stove. If such is your case, you may make up a shortfall by adding a prefabricated hearth extension which provides the required 406 mm. (16") clearance from the front of the stove. As an alternative, you may position your stove further into the fireplace in order to give you more clear hearth in front of the stove. This can be an acceptable solution. However, remember that the further a stove is into the room, generally the more heat it will provide. Hearth rugs, while attractive, do not meet the code requirements as hearth extensions, so these may not be used in place of a non-combutible hearth. Hearth rugs are used to protect the floor from ashes and to give a richer, finished appearance to the stove setting.

TABLE 6 FIREPLACE ADAPTER MINIMUM HEARTH EXTENSIONS

Stove	A	B	C
FA209CL	406 mm. (16")	203 mm. (8")	203 mm. (8")
FA224ACL	406 mm. (16")	406 mm. (16")	203 mm. (8")
FA224CCL	406 mm. (16")	406 mm. (16")	203 mm. (8")
FA264CCL	406 mm. (16")	406 mm. (16")	203 mm. (8")
FA288CCL	406 mm. (16")	406 mm. (16")	203 mm. (8")
FA455	406 mm. (16")	406 mm. (16")	203 mm. (8")

Minimum Hearth Protector Extensions from:
A: front of stove B: left side of stove C: right side of stove

If you plan to mount a fan on the back of a convection heater being used in a fireplace adapter installation, it is especially important to clean the fireplace of any ashes or soot, to keep the fan from blowing these into your living space. It is also imperative to make a tightly-sealed positive connection to carry smoke from the stove up into the chimney, so that the fan can't push the smoke out into the living space.

Do **not** mount a fan on the back of a fireplace insert (that is, a stove which is installed without legs into an existing masonry fireplace and "finished" with cast iron shroud panels.).

IMPORTANT NOTE: The FA455 is approved for fireplace adapter but not fireplace insert installation.

FIREPLACE INSERTS

A Fireplace Insert is a stove installed without legs, and used in conjunction with cast iron panels (called the "shroud") which, when installed in a code compliant masonry fireplace, provides an attractive, finished look. The FA224CCL, FA264CCL, and FA288CCL are all approved for fireplace insert installation.

A fireplace insert takes maximum advantage of your fireplace. Since a fireplace is almost always a major focal point, the insert becomes the center of attention. To be most effective, a fireplace insert, should be situated substantially on the hearth, rather than embedded in the fireplace. The farther a fireplace insert is set into the fireplace, the more difficult it becomes to get heat from the insert out into the room. Each of our fireplace inserts is meant to sit only about 50 – 75 mm. (2"–3") into the

fireplace. Most of the insert is on the non-combustible hearth where it can heat best and provide a cooking surface. For details on fireplace insert installation, see the guidelines provided in the "Fireplace Adapter" section.

Here are some frequently asked questions about fireplace insert installations:

Q: Can I seal the shroud on the fireplace front rather than make a positive connection between the fireplace insert's chimney connector and the chimney? No. Current codes now require a positive connection. Consult your building code inspector for regulations concerning positive connections which apply in your area.

Q: Can I install my stove in a zero-clearance fireplace? No. Our stoves have not been tested for this application.

Q: How can I tell if my fireplace is a zero-clearance? Such fireplaces are normally found only in newer homes. They (and their chimneys) are made primarily of metal and carry somewhere on the interior of the firebox a safety listing label which will identify them as a zero-clearance fireplace. Usually they are built directly into a combustible wall with no clearances observed (hence the name). If in doubt, a building inspector or chimney sweep should be able to identify your type of fireplace immediately.

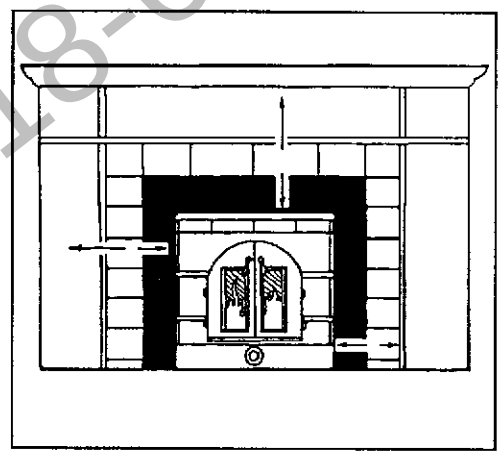
Fireplace Insert Clearances

A fireplace insert installation has clearances also. Crucial clearances for inserts are: (1) distance to side walls, (2) distance to mantel, (3) distance to decorative side trim extending from the face of the fireplace.

Table 7 FIREPLACE INSERT CLEARANCES

Insert #	S	M	T
7A and B (used with FA224CCL)	224 mm. (31")	508 mm. (20")	305 mm. (12")
8A and B (used with FA264CCL)	224 mm. (31")	508 mm. (20")	305 mm. (12")
9B and C (used with FA288CCL)	224 mm. (31")	508 mm. (20")	305 mm. (12")

Minimum clearance from:
S: Side Wall M: Mantel T: Unprotected decorative side trim



Fireplace Inserts also must meet minimum hearth extension requirements. Fireplace Insert hearths must be **totallly non-combustible, including any subfloor or support materials.**

TABLE 8 FIREPLACE INSERT FLOOR PROTECTOR MINIMUM REQUIREMENTS

	A	B	C
All inserts	406 mm. (16")	406 mm. (16")	203 mm. (8")

Minimum Hearth Protector Extensions from:
A: Stove Front B: Stove Left Side C: Stove Right Side

OPERATING YOUR STOVE OR FIREPLACE INSERT

All Consolidated Dutchwest stoves and fireplace inserts have been built to be operated with several goals in mind. These goals are:

1) Optimize safe operation 2) Minimize fuel usage 3) Maximize heating output

Whether these goals are achieved in your setting will depend in substantial part on how you install and run your stove or fireplace insert. We provide the keys. Everything you need for successful, safe, and efficient operation is built in. It is now up to you. No special skills are required although a good dose of common sense will make operation of your stove more satisfying. Be sure to read these operating instructions and the installation instructions in the previous sections carefully.

CONTROLLING YOUR STOVE OR FIREPLACE INSERT

On each Consolidated Dutchwest stove there are three air supplies. These air supplies are your main controls over firing and the rate of combustion of your fuel.

Air supplies: All stoves have three dial dampers.

1) The dial on the ash drawer is for underfire air, used to start and maintain coal fires.
2) The air supply on the loading door is for overfire air. This typically is used to start and maintain wood fires and to help with secondary coal burning.
3) The dial damper on the left stove side (above the door on models with side load doors) is used to feed additional, preheated combustion air to a location just below the catalytic combustor. This further improves the stove's efficiency by helping to burn off an even greater percentage of the wood smoke. This should be closed during coal fires and slow-burning wood fires.

Operating Your Air Supplies: You will be able to control the amount of heat your stove produces, the burn time you will get on a load of fuel, and your stove's overall efficiency through the three air supplies. The more air you let in the faster your fuel will burn.

Each dial damper is fitted with a square steel head onto which your door handle will fit. To close the dampers, rotate in a clockwise direction until the damper is tightly sealed. Open by rotating it in a counter-clockwise direction.

Typical damper settings (the main variables in starting and maintaining a fire) will vary according to the fuel used and the amount of heat you wish to generate. Heating output can be increased rapidly by opening the dampers more. However, the dampers should be mostly closed to maintain an overnight fire.

Typical settings are: **Coal fire**:
Underfire air: 1-3 turns open
Overfire air: 1/4-1/3 turn open, or closed
Combustor air: closed

Wood fire:
Underfire air: closed **(always)**
Overfire air: 3-4 turns open (1-2 turns open for Model FA455)
Combustor air: open for medium to high burns
closed for low burns

When first using the stove, keep track of how many turns open you have set your dampers. You will quickly find that a specific air setting will give you a fixed amount of heat output. It normally takes about 10 days to determine optimum settings for your installation, as each is different. Remember typical settings are average settings. You may require different damper settings depending on heat output, burn time, draft requirements, etc.

During medium and high burn rates, it is necessary that the combustor receive additional air, as there is not enough oxygen left over from the initial burning (of the wood in the firebox) to aid the combustor in the burning of the gasses. For wood fires that last about 6 hours or less (medium or high burns), the combustor air dial damper should be opened 1 or more turns. This damper should be closed tightly when maintaining an overnight burn with wood or during the later part of a wood burn cycle.

Rules for Using Air Supplies:

1) Do not assume you need a large quantity of combustion air, especially if you have a good draft. Particularly when burning wood, you will not need much air.

2) Trial and error will give you the best settings for your particular installation. By keeping track of the various air settings and resulting heat, you will come to the appropriate setting to meet your heating goals.

3) **DO NOT OPERATE THE STOVE WITH THE ASH DOOR OPEN. THIS CAN LEAD TO EXTREME OVERFIRING. OVERFIRING A STOVE IS DANGEROUS.**

Optional Chimney Connector Dampers: In cases of severe overdraft (which are rare), you may need to install a chimney connector damper. Before installing such a device, however, be sure to consult with your Dealer or a Team Fireside Advisor to determine if there are other factors contributing to your burning problems. Many cases of apparent overdraft are actually caused by poor maintenance, and can be easily corrected.

The Bypass Gate: An important element in controlling the air flow within the stove is the bypass

gate. The bypass gate is operated from the left side of the stove, by use of a brass handle. The small, square-headed operating rod, located just behind the combustor air damper, is rotated to open and close the bypass gate. Unlike the dial dampers, the bypass has only two positions: open or closed. Rotate the handle clockwise to open the bypass gate and counterclockwise to close it.

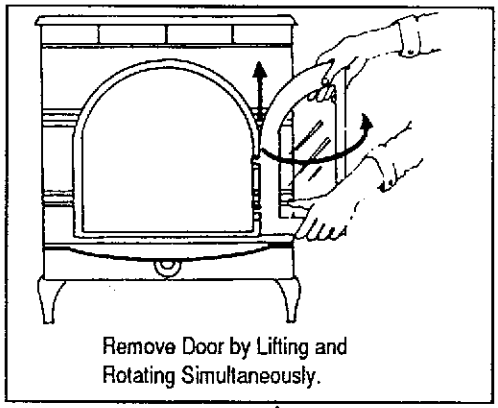
The bypass gate MUST be open during the following situations:
1) When starting a fire, in order to create a draft.
2) When opening any of the stove's side or front doors.
3) When reloading your fire, for approximately 5 minutes. The bypass gate should be closed after reloading when the temperature on the probe thermometer reaches 260 C (500° F.).

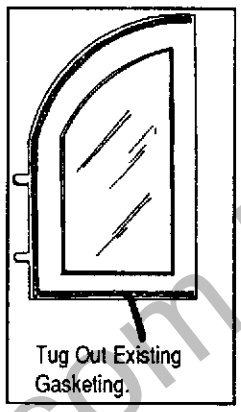
MAINTAINING AIRTIGHTNESS

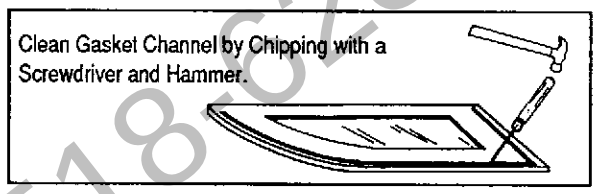
Gasketing: To find low spots in door gasketing, close each door on a slip of paper and attempt to pull the paper free. If the paper is freed without tearing, the gasket isn't snug enough at that spot. Try adjusting the latch. If the door is already as tight as it will comfortably go, either replace the gasketing or tug out the existing gasket and pack more cement into the channel behind it. This will push the gasket outward and bring it into contact with the door frame.

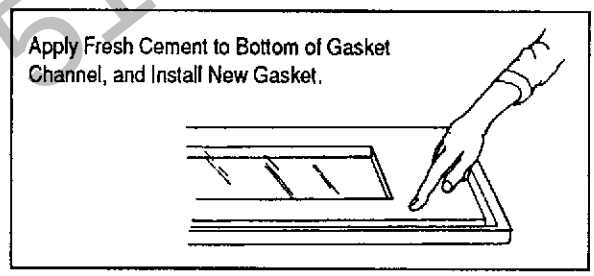
Should you need to replace any gasketing, use only Consolidated Dutchwest replacement gaskets.

Door Latches:









Precision control over firing through use of the air supplies requires your stove to be airtight. From time to time your door latches may come out of adjustment. Your door latches have been threaded through the doors. Your doors actually tighten/loosen as the latches are turned. If the latch is not providing a positive "tight" seal, rotate the latch shaft one turn counter-clockwise to tighten. If still not tight, continue to rotate additional turns as necessary. If the latch is too tight, turn clockwise as many turns as necessary to obtain the right fit. Maintenance of a tight seal on the doors ensures precision control over firing. Very occasionally, it may be necessary to reset the position of the catch on the stem. An Allen wrench has been provided for loosening and retightening the catch mechanism. When retightening the set screw with the Allen wrench, be sure it lines up against the flat side of the door latch bolt.

Seams: Each Consolidated Dutchwest stove is airtight. However, over time, cemented seams may deteriorate. Occasionally, some cement may loosen when the stove is in transit. If your stove is running too fast, check for leaky seams with the following procedure. Build a medium sized fire with the flue damper and bypass gate open. Then close all air intake dampers. Trace each seam with a candle, cigarette, incense, etc. and note any spots where smoke is drawn in. When the stove has cooled patch these spots with stove cement. Allow 24 hours for the fresh cement to dry. On convection models, smoke coming from the convection ports indicates an internal seam leak which can be located and repaired as follows: Remove the rear and side wear plates (half walls) inside the firebox (refer to the stove's assembly instruction's parts diagram for part identification). Lift the grate frame from the firebox bottom. Block or tape over the convection inlet and outlet ports and turn on the blower (if there is no blower, substitute a hair dryer blowing in through the blower port). This raises the air pressure in the convection chambers. Next, trace the seams inside the firebox with a ciga-

rette, etc. and note any spots where the higher pressure in the convection chambers leaks into the firebox. Clean any loose material off these spots with a wire brush and patch with stove cement. Allow the fresh cement to dry for 24 hours before firing the stove.

Glass Doors: Do not abuse the glass door(s) by slamming them shut or striking the glass with a piece of wood. Do not operate your stove with damaged or broken glass. If you need to replace the glass, use only glass provided by Consolidated Dutchwest. Instructions for glass replacement can be found in the assembly manual which came with your stove.

Care and Maintenance of Your Blower: The blower sold with Consolidated Dutchwest convection stoves has been designed to provide years of trouble-free service. In order to obtain the maximum life we suggest that you perform the following maintenance procedures at the beginning of each heating season:

1. Unplug the blower and remove from the stove.
2. Carefully vacuum the accumulated dust from the blower.
3. Permanent sintered bronze sleeve bearings with lubricant oil reservoirs are built into the motor; therefore there is no need to add oil.
4. Re-attach the blower to the stove and plug it in.

"CURING" YOUR STOVE

Your first few fires should be small to medium in size and wood should be your fuel. Cast iron needs a few milder fires to 'cure' (reach its maximum strength), so you should not build an intense fire the first few times out. This could crack a casting. Build up each succeeding fire a little hotter. After 4 or 5 fires you may proceed with normal burning. However, even when properly "cured", never build a roaring fire in a cold stove, or you may cause a casting to crack or warp.

The paint and cement in our stoves also has a curing cycle. There will be a slight odor at the time of curing which is normal. We suggest you burn the stove in a well ventilated area in your home or outdoors with a few sections of chimney connector on the stove.

The following are recommended probe thermometer temperatures and times involved to reach these temperatures while curing your stove. The dial dampers will have to be adjusted to reach and maintain these temperatures. Remember, the more air that is fed to the fuel, the more heat generated. If the temperature is too low or too high, adjust the dial dampers as necessary.

First Fire: Allow 1 hour to achieve 150 C (300° F.). Maintain 150 C (300° F.) for 1 hour and allow fire to burn out.

Second Fire: Allow 1 hour to achieve 260 C (500° F.). Maintain 260 C (500° F.) for 2 hours.

Third Fire: Allow 45 minutes to achieve 260 C (500° F.). Close bypass gate so gasses are routed through the combustor. Allow 15 minutes to achieve 430 C (800° F.). Maintain 430 (800° F.) for 3 hours.

Fourth Fire: Allow 1/2 hour to achieve 260 C (500° F.). Close bypass gate. Allow 20 minutes to achieve 650 C (1200° F.). Maintain 650 C (1200° F.) for 4 hours.

LOADING, STARTING, AND MAINTAINING A FIRE

Wood fires and coal fires are loaded, started, and maintained in different ways. The following section is divided into two parts. The first deals with coal fires, the second with wood fires. Read these instructions carefully for a complete understanding of how to run your stove.

COAL STOVES

Each Consolidated Dutchwest Stove loads coal through the front door(s). A deep coal bed is required. When possible, you should try to maintain a depth of 150 mm. (6") of coal in the coal bed. To maintain a coal fire, shaking the coal is required every 5 –12 hours, depending on the size of your stove and the level of firing.

Note about coal burning: Successful coal burning requires a difference of 9 C – 12 C (30° – 40° F) between your house temperature and the outside temperature. A substantial difference in temperature enhances draft. A small difference reduces draft. All Consolidated Dutchwest stoves that burn coal also burn wood. If you have trouble maintaining a coal fire, and the weather is still relatively

mild (4 C – 10 C, or 40° – 50° F.), wait for a very cold day to burn coal. We suggest as a rule of thumb, that wood be burned early and late in the season and coal, if you choose to burn it, be burned November to March, depending on your location.

IMPORTANT: Except during fuel loading and ash removal, all Consolidated Dutchwest stoves and inserts must be operated with the doors fully closed when burning coal.

Sizes of Coal: There are three sizes of coal commonly used in coal stoves. They are (1) pea coal – very small (10 – 20 mm. or 3/8"– 3/4"), (2) nut coal – medium sized (20 – 40 mm., or 3/4"– 1-/2"), and (3) stove coal – larger sized (40 – 70 mm., or 1-1/2"– 2-3/4"). We suggest you use either nut or stove coal, and in general have found that stove sized coal delivers the best performance in our stoves once a fire is established. It's often easier to start a fire with nut coal. Use only premium grade anthracite coal.

To Start a Coal Fire

All coal fires are started with wood, preferably hardwood. Customers who try to start coal fires with coal are in for a frustrating time.

Step 1: Remove the grate covers from their position on top of the shaker grates. (These should be kept for wood burning in the future.) Set all necessary coal grate parts in place. In the case of the FA209CL, you need only set the drop-in coal grate front in place. For all 224, 264, 288, and 455 series stoves, you have two coal grate sides and a coal grate front to set in place. In every case, this takes only a few moments. Do not try to set any of these parts in place once the fire is underway! **If your catalytic combustor is in place, remove it.** It's located just below the polished cooktop. Simply lift it out (remove only when stove is cold). It is important to remove your combustor, as smoke from coal fires contains elements which can coat the combustor and make it inoperative. Do not run coal fires in your stove while the combustor is in place. We have provided a cast iron strainer with some models to set in place of your combustor. This strainer will become very hot during firing and will enhance secondary combustion of any unburnt by-products of coal combustion. (In some installations with especially low draft, you may need to omit the strainer.)

Step 2. Open the bypass gate. This is essential. This minimizes draft resistance and ensures your stove will not smoke when the doors are opened. If you attempt to open the doors while the fire is going and the bypass is closed, your stove is almost certain to smoke. This is dangerous. The enhanced draft experienced when the bypass is open makes fire starting very easy.

Step 3. With the coal grate parts in place, go about organizing a normal wood fire. Use paper, kindling, and small pieces of wood to create a combustible mass.

Step 4. Before lighting the fire, make sure the side door (if you have one) is closed. Close the overfire air and combustor air supplies as well. Be certain the bypass gate is open. If you have a chimney connector damper or an adapter/damper make sure this is open. Open the underfire air supply approximately 4 full turns. Light the fire and immediately close the main door(s). With the bypass gate open and the stove sealed except for the underfire air, a bellows effect is created which will very quickly bring your fuel to a full burn. Permit it to burn 5 – 10 minutes, then add additional larger wood. Within 10 – 30 minutes of starting you should have a substantial hardwood coal bed.

Step 5. Once all fuel is well engaged, begin to add coal through the front door(s). At first add a layer of about 25 mm. – 50 mm. (1 – 2"). Wait 5 – 10 minutes or until the coal is fully engaged and repeat the process. After adding coal three times you may add as much more coal as the coal basket will hold, being careful not to smother the fire. Close the bypass gate at this point. This will reduce the draft pressure, but will begin to circulate smoke, flame, and heat up through the extended baffling system.

Step 6. Once the coal fire is well engaged, reduce the underfire air supply from four turns back to about 1–2 turns open. Now open the overfire air 1/4–1/3 turn. After reducing the underfire air it will take about 30 – 45 minutes for the stove to assume its mature operating temperature. The temperature can be increased/decreased by further opening/closing of the underfire air. During a mature coal fire the temperature showing on the probe thermometer will range from 230 C – 400 C (450° to 750° F.). Temperatures (with coal only) above 480 C (900° F.) are an indication of overfiring. Be careful if reducing the underfire air opening below 1/2 turn as this may lead to putting the fire out. Opening the overfire air damper too much can have the same effect.

Step 7. When burning coal it will be necessary periodically to shake the coal bed down. Because coal has a high ash content (higher than wood) the coal ash must be shaken out or else the fire will suffocate in its own ash. In general, if convenient, the fire should be shaken every 4 – 6 hours. However, it is possible to go 8 or even 12 hours without detriment to the fire. Maximum time between "shakes" will vary between installations. **Before shaking, be certain the ash door is closed as hot coals may fall out.** The main doors should also be closed because of dust raised during shaking.

About Shaking: When shaking, shake gently. Shaking too vigorously may needlessly disrupt the coal bed. If, when shaking, a rotating section jams, wait an hour or so. Normally the jammed pieces will be consumed (burned) during that time and the grate will be freed up. **Do not use excessive force to free a jammed grate. You will break it.** When rotating the grate sections, their range of motion is 90 degrees. However, for ordinary shaking during an ongoing fire the rotating sections should be rotated no more than 45 degrees. Rotate a full 90 degrees only when you wish to dump the coal bed. Rotating grates are activated by using a grate handle provided with your stove. Simply slip the grate handle onto the ends of the grate protruding from the side of your stove, then turn them back and forth. Do not shake down all the ashes. Stop shaking AFTER a few red embers are shaken into the ashdrawer. This will protect the grates and provide a hot bed for refueling.

Step 8. To reload a continuing coal fire, first reopen the underfire air supply to 3 turns. Wait a few minutes for the temperature of the coal bed to increase. Shake gently. Open the bypass gate and any flue or chimney damper(s). Immediately add 25 – 50 mm. (1–2 ") of coal and repeat steps 5 and 6. If the fire has burned too far down, and you think that you may lose it, add coal after heating the bed but BEFORE shaking.

Removing Coal Ash: Coal ash will accumulate rather quickly. It will be necessary when burning coal to empty your ashdrawer at least once a day. Coal ash may contain hot coals and should be treated with extreme care. Therefore we suggest emptying the ashdrawer before shaking and reloading. New ash may then cool before the next shake. Coal ash must be placed in a metal container and stored outside away from all combustibles. No other type of waste should be combined with the ashes from your stove. Coals can remain hot for a very long time – sometimes as long as several days, so you must be **certain** that they are **completely** cold before you transfer them to an ordinary container. **Coal ash may <u>not</u> be used as fertilizer. It contains toxic heavy metals that will kill plants.**

WOOD STOVES

Most Consolidated Dutchwest stoves load wood from both front and side. Side loading is usually easier. Experience can be your guide. Model FA209CL is deeper than it is wide and thus loads quite easily from the front.

IMPORTANT: All Consolidated Dutchwest stoves may be operated with the front doors either open or closed, with the exception of the Sequoia, FA455, which must always be operated with the door closed. When burning in the open door mode, be sure to use the firescreen which came with your stove, and make sure the bypass damper is open.

To Start a Wood Fire:

Most of us have experience starting a wood fire. Starting a fire in a wood stove is not so different from a fireplace or a campfire.

Step 1. Make sure your stove is set up for wood burning. If the combustor has been removed, place the extra Interam gasketing provided around the combustor, and reinstall it into the top of the stove in the round space just beneath the removable polished top. **Remove the cast iron strainer sitting in the combustor space.** That's only for coal burning (it will interfere with the catalytic combustor). If your stove is an FA209CL, you also need to remove the drop-in coal grate front. If your stove is from the 224, 264, 288 or 455 series then you need to be sure all coal burning grate parts have been removed. There are 2 coal grate sides and the grate front.

Before switching from coal to wood burning, you **must** reinstall the grate covers which came with your stove. Please see the assembly instructions that came with your stove for more information about reinstalling these grate covers.

Use small pieces of wood – preferably soft woods – as kindling, with your main fire to be hardwood – oak, ash, hickory, etc. Do not burn anything but real wood in your stove. Things like plywood, pressed board, waferboard, chipboard, masonite, etc. contain glues which form toxic gasses when burned. Your combustor is not capable of dealing with these gasses. Never burn pressure treated lumber under any circumstances, as it contains copper chromium arsenate, a form of arsenic, which is extremely toxic.

Step 2. Open the bypass gate, and any flue damper(s). This is very important. It minimizes draft resistance and ensures your stove will not smoke when the doors are opened. If you attempt to open the doors while firing is underway and the dampers are closed, your stove is almost certain to smoke. This is dangerous. The enhanced draft experienced when the dampers are open makes fire starting easier.

Step 3. Using paper, kindling, and small pieces of wood, go about organizing a normal fire. Be sure to use sufficient quantities of all materials so the fire has the opportunity to 'catch'.

Step 4. Before lighting the fire, be sure the side door (if you have one) is closed. Open the overfire air three turns and close the combustor air dial damper. (The underfire air supply must always be closed during wood burning.) Light the fire and immediately close the main door(s). Within 10 – 15 minutes the fire will be well established and you may add additional larger pieces of wood.

Sometimes when a chimney is cold, it will take a little time to warm up sufficiently to draw. Unfortunately, this can lead your stove to "smoke" until it starts drawing. To alleviate this problem, we suggest you roll up a couple of pieces of newspaper, place them on top of the fuel in your stove, and push them toward the stove back. Light these pieces first and close the front door(s). These will heat the chimney sufficiently to start it drawing. If you have installed the glass window(s), you will be able to see when the chimney starts drawing the smoke away. Once it does, open the main door(s) and light the rest of the fuel from the bottom. Do not light the main bed of fuel until the chimney begins drawing, and if the rolled paper goes out without creating a strong draw, repeat the procedure.

Step 5. Once the temperature on the probe thermometer (inserted in the finished cooktop) has reached at least 320 C (600° F.), close the bypass gate, and open the combustor air damper 1 – 2 turns. This will activate the catalytic combustor and force the heat through the stove's baffling system. To ensure the combustor's continued operation, let the temperature approach 430 C (800° F.) before changing your air settings. For medium and high burns, open the combustor air damper a total of six full turns. For low or long burns, close the combustor air supply.

Step 6. Close the overfire air supply to about one turn open (2 turns open for model FA455). The volume of fire will be immediately reduced, but the stove will continue to warm up. Continue to control the fire using only the overfire air. For a smaller fire, reduce the overfire air setting. For a larger fire increase the setting.

Note about operating temperatures: High flue gas temperatures activate the catalytic combustor causing the smoke, creosote, and other by-products of wood burning to ignite. The results are very high temperatures in the combustor. Though operating temperatures of 760 C (1400° F.) and 875 C (1600° F.) are common, the recommended operating temperature range is 535 C (1000° F.) to 760 C (1400° F.) to prevent damage to the combustor. Temperatures of 925 C (1700° F.) or higher may damage the combustor. High combustor temperatures will frequently be experienced even during slow burning, cooler fires since this kind of burning actually produces more by-products, which are fuel for the combustor. Further note that although the combustor probe set into the cooktop will be registering very high temperatures, the actual temperature of the stove body itself will be much lower. Typically the stove body will be 175 C – 315 C (350°– 600° F.).

Step 7. When you wish to reload, follow these steps (1) open the bypass gate (and the chimney connector damper if you have one) and wait 15 seconds; (2) open the door slowly; (3) add fuel. Note that split wood will more completely fill the firebox and hence reduce the frequency of reloading. Well-seasoned wood (stored under cover for about one year) will burn most efficiently.

Step 8. After closing the loading door, check to see if the thermometer is continuing to register at least 260 C (500° F.), the minimum temperature required for catalytic activity. Frequently, the temperature will drop below 260 C (500° F.) after reloading, particularly if the loading door is open a long

time. You may wish to increase the overfire air setting to prompt the fire. If the fire is very weak, you may wish to open the by-pass gate to increase the draft. However, this should be done only for very brief periods as the stove may overfire, sending significant amounts of lost heat up the chimney while wasting fuel.

Removing wood ash: A natural residue of wood burning is wood ash. The ash may be left to accumulate in the stove without risk to the stove. Typically, during wood burning, the ash drawer needs to be emptied once every 1-3 days. WOOD ASH SHOULD ALWAYS BE DISPOSED OF IN A SAFE MANNER. Ashes should be placed in a metal container with a tight fitting lid. No other type of waste material should be placed in the same container as the ashes. The closed container of ashes should be placed outside on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until cinders have thoroughly cooled. Wood ash may be used as fertilizer.

CATALYTIC COMBUSTION

When burning wood, use of the catalytic combustor is essential for high efficiency and clean burning. When wood is burned, only a fraction of its energy is turned into heat. The rest goes up the chimney in the form of smoke. It takes a very high temperature of 595 C (1100° F.) to burn the smoke and turn it into productive heat. In non-catalytic airtight stoves, some of this smoke burns during high burns where additional combustion air is provided. This process is ineffective during medium and low burns, however, because firebox temperatures are not high enough to reach the necessary combustion temperature. These stoves also produce large amounts of creosote during long burns.

The catalytic combustor is coated with precious metals that cause the smoke to burn at only 260 C – 315 C (500° – 600° F.), meaning a more complete combustion process that gives you more heat and a cleaner burn. Even during long burns, when the firebox temperature decreases, the combustor feeds on the smoke to maintain the 260 C – 315 C (500° – 600° F.) combustion temperature. The result is longer burns, more heat per pound of wood, and less creosote if properly used.

COMBUSTOR USAGE

In order to activate the combustor, the bypass gate must be closed to force the smoke up through the combustion chamber. Because this reduces the draft, you should be careful not to close the bypass gate too soon. When starting a fire, even if the temperature probe reaches 315 C (600° F.) within a few minutes, you should let a strong fire run about 15 – 20 minutes before closing the bypass gate and activating the combustor. If you close the bypass gate too early, you may put out the fire or deactivate the combustor.

Remember: The combustor air supply located on the side of the stove feeds air to the area just below the combustor (between the combustor and the baffle). The combustor's efficiency will be enhanced by fully opening the combustor air during MEDIUM and HIGH burns. It is necessary that the combustor receive additional air during these burn rates, as there is not enough left over from initial combustion (of the wood in the firebox) to aid the combustor in burning off gasses. During LOW burns, however, there is usually enough extra oxygen to support catalytic combustion; the combustor air dial damper should be closed during these low fire conditions.

COMBUSTOR MAINTENANCE

The ceramic combustor will enhance your stove's performance, but there are certain characteristics which you should be aware of, and certain precautions you will want to take.

(1) Burning fuels other than natural wood will shorten the combustor life substantially. If you burn coal the combustor should be removed from the stove. Otherwise, ash, and other chemicals will plug up the combustor and cause its precious metal coating to deteriorate. Colored or coated papers, or papers printed with colored inks, will have the same effect. If you forget to remove the combustor when burning coal burning a few high wood fires with the combustor in position may help restore the combustor's activity.

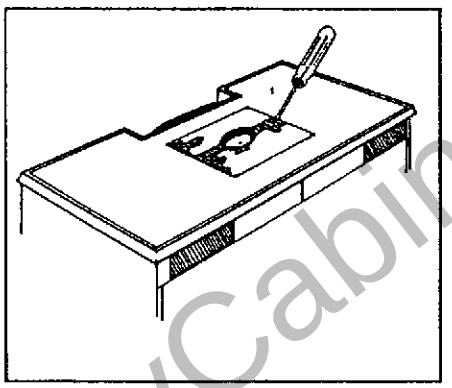
(2) The stove should be operated at probe temperatures between 430 C – 650 C (800° – 1200° F.).

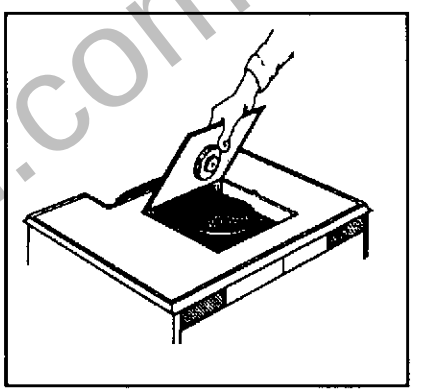
Temperatures over 925 C (1700° F.) may damage the combustor.

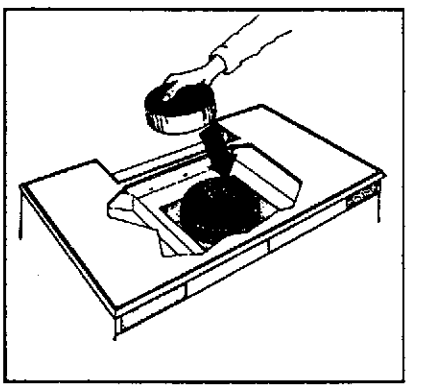
(3) The combustor may glow during the first 1/4 to 1/3 of the burn cycle, but it does not have to be glowing for it to be working. The ceramic substrate begins to glow at temperatures startings at 650 C (1200° F.) The glowing is not caused by the combustor firing, it is simply a result of it reaching temperatures of over 650 C (1200° F.), just as metal glows when it reaches certain temperatures. During most fires, (that is, slow to medium burn rates), the combustor is operating at temperatures between 430 C (800° F.) and 595 C (1100° F.) and does not glow. Therefore, to determine whether your catalytic combustor is operating, check the reading on your probe thermometer (inserted in the cooking top) which measures catalytic temperatures. If it reads 430 C (800° F.) or higher, your catalytic combustor is operating. If temperatures are lower than this, you should increase the intensity of the fire or reload the stove to keep the combustor functioning.

(4) Catalytic combustors can be defective in two ways. The most obvious is deterioration of the ceramic substrate. This is evidenced by crumbling of the catalytic combustor. Cracks or minor chipping of the combustor will not affect its performance, but if sizeable portions of it break off, you will need to replace it. The other way a catalytic combustor can be defective is that it does not assist in the burning of gasses. This is more difficult to diagnose, so we suggest you call our Technical Service Department first if you believe your combustor is experiencing this problem. Sometimes other factors, such as failure to heat the stove up sufficiently to achieve "light-off", will be the problem. Call or write our Technical Department if you have any questions regarding combustor operation and we will provide the guidance necessary to solve the problem. You may feel the combustor is defective, but in actuality the stove may not be operating properly.

(5) If you notice creosote building up in your chimney or chimney connector, you may be operating your stove in a way that produces creosote (see section on creosote below), or your combustor may be plugged up. Periodic inspection of the combustor (at least three times during the heating season) will solve this problem. Remove ash by blowing air through the combustor. Do not push a brush or other object through the cells to clean it as this will scratch off the metallic plating which forms the catalyst. Remove the catalyst for inspection as shown in the accompanying diagrams.







(6) Combustor Failures: As your combustor nears the end of its expected lifespan of 3 to 6 years for the average user, probe thermometer temperatures during normal firing will gradually decrease. If the combustor is clean and its temperatures no longer rise to 370 C (700° F.) after "lighting off", or will not achieve light off, the combustor is no longer effective and should be replaced.

Warranty Information for Catalytic Combustor

Each Consolidated Dutchwest catalytic stove comes with a Model CB 566 catalytic combustor, except for the FA455 which uses model CB 577 combustor.

The lifespan of your combustor will be affected by its use. Frequent large fires will consume the catalyst at an increased rate, shortening the life of the combustor. An original combustor or replacement will be replaced at no cost to the stove purchaser for two years from the original purchase date if it proves to be defective or fails to maintain 70% of its particulate reduction activity as measured by an approved testing procedure. To report a defective catalytic combustor, please call our Technical Service Department collect at 1-802-728-3181. You may also report a defective catalytic combustor

by writing Consolidated Dutchwest, Prince Street, Randolph, Vermont 05060, Attention: Catalytic Combustor Warranty Service. If you wish to receive a replacement at the time you write, please send us the defective combustor, (catalytic combustors are extremely fragile, and should be packaged and marked for shipment accordingly) plus information as to when, from whom, and which model stove you purchased, plus information as to in what manner it is defective. If you purchased directly from Consolidated Dutchwest and have available a copy of the original paperwork showing your order number, we would appreciate your including that as well. It is necessary to send us the defective combustor as the manufacturer requires this under their warranty.

CREOSOTE

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney of a slow-burning fire. As a result, creosote accumulates on the flue lining. When ignited, this creosote can cause an extremely hot and dangerous fire. The chimney connector and chimney should be inspected regularly, at least twice monthly in the heating season – more often if experience dictates – to determine if creosote build-up has occurred. The use of a catalytic combustor can greatly reduce creosote build-up, but you should still regularly inspect your chimney to be certain it is clean, in case the combustor should stop functioning properly. If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

With the catalytic combustor and combustor air to burn off wood smoke and by-products, creosote build-up can be reduced by as much as 90%. Many customers have gone through a number of seasons with very little creosote build-up.

Nonetheless, creosote may build-up, depending on your installation and firing habits. Installations with poor drafts are more likely to create creosote because wood smoke moves very slowly up the chimney and is more likely to cool and condense there.

Stoves set for long burn times (especially those with a poor draft) may also contribute to creosote build-up if the temperature falls below 260 C (500° F.). In that case you should rebuild the fire and temporarily open the bypass gate to create a stronger draft.

Trouble-shooting Guide

Each installation is different. From time to time problems may occur. This section is intended to help you diagnose any problem you encounter. If you are unable to resolve a problem that arises, please contact the Dealer from whom you purchased your stove, or you may write the Technical Service Department at Consolidated Dutchwest, Prince Street, Randolph, Vermont 05060, or call collect 1-802-728-3181.

The following are problems which may arise, and helpful explanations and/or solutions for them.

1. White spots on stove. Over time and in moist conditions the furnace cement used on our stoves will "bloom" (turn white). Any area that turns white should be thoroughly brushed and repainted. Wire brushing will remove the cement so that the spots will not reappear. If you paint over them without first brushing, they will probably reappear later on.

2. Dirty Glass. When burning coal your ceramic glass windows will remain clear. However, when burning wood, particularly during slow firing, creosote may coat the window with a blackish film. This film can be removed with a chemical solvent (recommended for ceramic glass), or burned off during a high firing. Do not use abrasive cleaners, and always allow the stove to cool before cleaning the glass.

3. Paint develops a bleached look on sides. Stove paint will lose its pigment at about 540 C (1000° F.). If the pigment is burning out you are probably overfiring. Repaint and rein in on your heating ambitions.

4. Shaker grate jams. The rocker grates will occasionally jam when coal gets caught between the rocker grate and the fixed center grate section. If one section locks up during shaking, do not try to force it. To do so may break the grate. Rather, wait 45 minutes to an hour and the piece causing the jam will be consumed by the fire, and the grate will be freed up. When shaking, the grate can rotate 90 degrees. However, for ordinary shaking during an ongoing coal fire the grates should only be rotated 45 degrees. A full 90 degree shake will cause the grate to dump the coal into the ash pan

and may cause the grate to jam.

5. Low draft. Many problems result from insufficient draft, such as low heat output, inability to maintain a fire, condensation, smoking, and odor. Here are some of the causes and solutions:

a. Your chimney and/or chimney connector is blocked either with creosote or some other kind of blockage. You should inspect your chimney connector and chimney frequently to avoid this problem.

b. A connection between two sections of chimney connector may have come loose. The connections should be sealed with sheetmetal screws to avoid this problem. You can isolate leaking joints with the cigarette test described in paragraph "g" below.

c. Your chimney connector has too many turns or runs horizontally for too great a distance. Any turn creates resistance to the smoke's path. You should avoid more than two 90 degree turns in any one installation, and any level sections of chimney connector should be no longer than two feet. It is better to make 90 degree turns in two steps, with two 45 degree elbows to minimize the draft resistance. If you want to increase your draft, and you are stuck with more turns in your chimney connector than desirable, you can consider extending the height of your chimney.

d. Short stack. Even in installations with a correct chimney connector configuration, you might still have draft problems if your stack (chimney) is too short. The minimum height should be at least 550 cm. (18 feet). Also, your chimney should be at least 90 cm. (3 feet) above the roof line and 60 cm. (2 feet) higher than anything else with a 300 cm. (10 foot) radius horizontally.

e. Oversized chimney. If the area inside a chimney is too large, the smoke will disperse and rise slowly, reducing the draft. As a rule, the cross-sectional area of the chimney should not exceed twice or 2-1/2 times that of the stove's flue outlet. For a flue size of 150 mm. (6"), the chimney area should be approximately 195 – 440 sq. cm. (30 to 65 sq. inches). For a 200 mm. (8") flue size, the chimney area should be approximately 325 – 625 sq. cm. (50 - 96 sq. inches). If the chimney is too large, you can reduce the chimney's interior size by adding a chimney liner.

f. More than one heating device is vented into the stack. ONLY ONE HEATING DEVICE SHOULD BE USED PER FLUE. The draft may be bypassing your stove and drawing through the other device.

g. Your installation and positive connection may be poorly sealed. Particularly if venting into a fireplace, an improperly sealed connection from stove to stack may be permitting air to skip the stove and draw through the other openings. Therefore, make sure all connections are sealed tightly. If you're convinced your installation is properly sealed, then look for leaks in the stack itself. In a masonry chimney, look for a poorly fitting ash door in the basement or on an outside wall. Placing a lighted cigarette near connections in your chimney or block-off plate when your stove is in operation can help reveal a leaky connection (the smoke will be drawn in).

h. Undersized chimney. The chimney must have an interior area at least equal to the stove's required flue size. See section "e" above. It is a violation of safety regulations to reduce a stove's flue size unless specifically approved by the manufacturer.

i. Tightly sealed house. A stove depends on a house's natural leakage ("infiltration") to replace the air it burns and sends up the chimney. If your house is especially well sealed it may prevent this infiltration. Test for this condition by cracking open the door or window closest to the stove and note if this makes a difference in the stove's operation. If it does, you should install an outside air intake to bring the combustion air for the stove from outside the house.

6. Can't get the long burn time. Airtightness is also a factor in getting a long burn. (See "Maintaining Airtightness".) The wood you burn will also influence your burn time. Softwoods tend to burn relatively quickly. For the best burn times, you should stick to seasoned hardwoods. You may also be trying to get more heat from a "long burn" than the stove is capable of delivering. One load of wood has a fixed and limited amount of energy stored in it. There will be a big difference in heat

output if that energy is delivered over one hour or ten hours. A slow overnight burn should not be expected to maintain a high indoor temperature.

7. Can't maintain a coal fire. In some cases, your stove will burn wood very well but still have trouble maintaining a coal fire. In most cases, this indicates that you still have one of the draft problems mentioned in #5. But there are two other possibilities.

a. You need at least a 9 C – 12 C (30 – 40° F.) difference between the indoor and outdoor temperatures in order to maintain a sufficient draft for coal burning. On warm days, it will be very difficult to maintain a coal fire. It's best to burn wood early and late in the season and coal from November to March.

b. There are various grades and qualities of coal. If you don't know your supplier well, try a bag of high-grade coal from another supplier. You may have coal with a high percentage of impurities.

8. Not getting enough heat. This situation may be indicative of several things: (1) The area you are trying to heat may be poorly insulated or drafty and may not be retaining heat properly; (2) you may have a draft problem as discussed in #5 which is limiting your maximum firing level; (3) the stove may be undersized for the job at hand.

9. Smoke coming from the surface of a new stove. During the first few burns, the stove paint and furnace cement "cure" and let off smoke. You'll be able to differentiate this smoke from leakage because paint and wood smoke have distinctly different odors. Some people run their first few fires outdoors to avoid these odors.

10. Stove or stove area is smoking. You should first determine exactly where the smoke is coming from. If smoke is consistently coming out of one part of the stove, one of the seams or the doors (see #12) may be leaking. You can apply fresh stove cement to the seams to patch the leak. However, the fact that smoke is leaking out is also a sign of a draft problem which needs to be corrected (see #5). If the smoke is coming from the chimney connector area, your connections or block-off plate are probably not sealed or have come apart. These should be resealed or reconnected. When opening the front or side doors, the bypass gate must be opened first. Otherwise the stove will smoke. If the bypass gate is open and the stove is still smoking, then you should check the problems mentioned in #5 regarding insufficient draft.

11. Downdraft. If you frequently experience downdraft, you probably have a draft or installation problem (see #5). One possible solution is to increase the chimney height. If nearby trees or other obstructions are interfering with your draft, you may need to remove them, or get a draft regulating device. Smoking related to wind direction or wind speed can usually be solved by a downdraft preventer, while other types of smoking are a sign of an obstruction or other problem described in #5.

12. Doors don't seal properly. Each door is fitted with a threaded door latch. When turned clockwise, the mechanism tightens. Using the removable door handles, rotate the latch 360 degrees to tighten or loosen the latches as necessary. This will keep the door well-sealed. It may be necessary to reset the catch on the threaded stem. An Allen wrench is provided for this purpose. In certain situations, the gasketing may also lose its original shape and prevent the door from closing tightly, in which case you should replace the gasketing. Use only Consolidated Dutchwest replacement gaskets.

13. Can't get enough wood into the firebox. In loading our stoves we suggest you use split wood. It permits the loading of substantially more wood.

14. Ash overflow in ashbin. If you forget to empty the ashdrawer periodically the ashbin itself will fill with ash. It can be difficult to clean the ash accumulation in the back of the ashbin.

15. Brass dial damper changes color. The brass dials are covered with an anti-tarnish coating, which typically darkens in response to heat. You can use acetone (or nail polish remover, which is mostly acetone) to remove the coating. If neither of these works, try a very fine steel wool, as the coating may come off with this.

16. The cooktop changes color. The cooktop is a solid cast-iron plate that undergoes finishing. It's normal for it to darken in response to heat. Metal polish will keep it clean, but it won't prevent

all dampers and monitor the fire until it has returned to a normal level. Do not attempt to overload your stove as this could lead to an overfiring situation. Never run your stove so hot that it glows.

13. Your stove is designed to burn natural wood only (with combustor in place). Higher efficiencies and lower emissions generally result when burning dried seasoned hardwoods as compared to softwoods or green or freshly cut hardwoods. DO NOT BURN: wood that has been treated with anything, including paint, varnish, stain, shellac, etc; garbage, cardboard, solvents, colored paper (such as catalog stock) or paper printed with colored inks or trash. Burning these may release toxic fumes and may "poison" the catalytic combustor, making it ineffective. Always remove the combustor when burning coal. Burning cardboard or loose paper can produce soot or large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room and rendering the combustor ineffective. NEVER BURN PRESSURE-TREATED WOOD in any stove (with or without a combustor), as it contains a toxic chemical, copper chromium arsenate, a form of arsenic. Burning plywood and chipboard or particle board will also produce toxins.

14. Do not operate the shaker grate(s) with the ashdoor open. Hot coals may fall out. To prevent the spread of dust we further suggest the loading door(s) be closed as well.

15. When using the rotating coal grates for ordinary shaking, rotate them 45 degrees. Rotate them 90 degrees only when you wish to dump the coal bed.

16. When disposing of ash, exercise extreme care. Ash frequently contains hot coals. Dispose of them in a non-combustible container with a tight-fitting lid. Do not dispose of them near a house. Remember, coals may remain hot for a long period of time, so they should never be dumped close to combustible materials. Do not store them in a garage – the possible presence of flammable gasses is a very dangerous situation.

17. Inspect your installation periodically for any evidence of deterioration.

18. Each stove comes with removable (slide-off) door handles. They should always be removed when the stove is fired, as they will otherwise become very hot and could cause burns. Small springs are provided to fit inside the handles so they will fall off in case you forget to remove them. A wall-hanging bracket, which can be secured to a wall with two screws, is provided to hold them when the stove is in use. The removable handles can also be used to adjust the dial dampers, and open or close the catalytic bypass damper. It is a very good idea to have a pair of insulated gloves for use when loading a stove so you won't accidentally burn your hand.

19. Fly Ash - When coal is burned, it produces fly ash, which may accumulate in the chimney, particularly around elbows. You should inspect your chimney twice monthly (more often if experience dictates) for fly ash if burning coal, and remove it if necessary.

20. Coal Gas - when coal is burned carbon monoxide is produced. Normally, this is drawn up the chimney like the smoke from a wood fire. However, unusual circumstances, such as an obstruction or leak in the chimney, may cause this gas to leak into the house. IT IS EXTREMELY DANGEROUS. While carbon monoxide is odorless, coal fires give off other gasses known as "aldehydes". Aldehydes have a distinctive "sour" odor. Thus a sour odor coming from your stove or chimney during a coal fire means carbon monoxide may be present. The first physical symptoms of carbon monoxide poisoning will normally be a severe headache, dizziness, and possibly an upset stomach. If sour odors or these symptoms are noticed you should (1) immediately open the doors and windows of your house to let in fresh air, (2) shut down the stove by closing the dial dampers all the way, (3) investigate further to determine whether the stove or chimney is leaking, (4) check to see if the chimney has become blocked, (5) if the source of the problem cannot be determined, call in a qualified installer for an inspection, and (6) correct the problem before burning again.

21. In the event of a chimney fire:
   a. Get everyone out of the house
   b. Close the three stove dampers
   c. Call the fire department

the darkening.

17. Water formation in the stack. Water vapor is a by-product of wood combustion. When the smoke moves slowly up the chimney or during a slow burn when the vapor's temperature out of the stove is already fairly low, the water vapor will lose heat and condense. Dry wood is clearly better in this type of situation than green wood, but even dry wood still gives off some moisture as it burns. If water condensation is still a problem during slow burns with dry wood, you can try to speed up the draft by introducing more combustion air. This will also serve to keep the chimney warmer. Also, the chimney connector and chimney should be as straight as possible, because turns in the smoke path accelerate the cooling process. Heating up the stack when you start a fire, by running a hot fire for awhile, will help prevent this condition. You can also increase the speed of the draft and dilute the water vapor by opening up the combustor air damper.

Do's and Don'ts of Operating Your Stove

Consolidated Dutchwest sells some of the most sophisticated stoves in the world. These stoves incorporate many features which are unusual in a stove, so it's unlikely you have ever operated a stove like it before. Take the time to read all information provided. It will make for a safer installation, safer operation, and more efficient performance. The following is a brief list of important things to remember.

1. Anyone operating the stove should read the Operating Instructions.

2. Your installation should be checked by your local Dealer, a local building inspector, or, in the event none is available, by a reputable chimney sweep. Most communities require such inspections, **so always contact your local officials for applicable requirements before using your stove.**

3. If installing in a fireplace, the fireplace chimney should be lined and a direct chimney connector connection made between the stove and the chimney liner. Inspect your chimney first for blockage or signs of deterioration and clean or repair if necessary. Do not remove bricks or mortar from the fireplace. An older, unlined chimney, where the masonry was installed against or very close to wood studs or other combustibles can be a very serious fire hazard. If you have any doubts about your chimney, we strongly urge you have it inspected by an expert (building inspector, etc.).

4. **DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

5. Always keep the area around the stove clear of furniture, drapery, and other objects. A 1200 mm. (48") or greater clearahce is recommended. Be sure drapery and loose papers cannot blow closer than this.

6. DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE. DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPTHA OR ENGINE OIL. Approved fuels are untreated wood and anthracite (hard) coal. No other fuels should be used. Bituminous coal and Cannel coal are not acceptable. Neither are paraffin logs.

7. Your first few fires should be small to medium in size and wood should be your fuel. Cast iron needs a few milder fires to "cure" (reach its maximum strength). After 4 or 5 fires, your stove will be "cured". See "Curing Your Stove".

8. When starting a fire or reloading, the bypass gate must be open. To open, slide a removable door handle onto the bypass damper handle shaft and rotate it clockwise. If you have a chimney connector damper or an adapter/damper they must be open as well. If the door(s) are opened while either damper is closed, the stove will smoke heavily. DO NOT UNDER ANY CIRCUMSTANCES OPEN THE DOOR(S) WHILE THESE DAMPERS ARE CLOSED. Open the doors a crack for a few seconds before opening all the way. This will help avoid back draft.

9. On stoves having both front and side doors, you should never open both doors at the same time. Otherwise, cross currents could lead to spillage of combustion products from one of the doors.

10. Do not store fuel close to your stove. 1200 mm. (48") or further is the recommended distance. Do not install a stove in a garage which is usually closed. The presence of a stove near combustibles such as gasoline, engine oil, etc. is a very dangerous situation.

11. DO NOT OPERATE THE STOVE WITH THE ASHDOOR OPEN. THIS WILL LEAD IMMEDIATELY TO EXTREME OVERFIRING.

12. Do not overfire your stove. A glowing stove or chimney is a sign of overfiring. Immediately close

all dampers and monitor the fire until it has returned to a normal level. Do not attempt to overload your stove as this could lead to an overfiring situation. Never run your stove so hot that it glows.

13. Your stove is designed to burn natural wood only (with combustor in place). Higher efficiencies and lower emissions generally result when burning dried seasoned hardwoods as compared to soft-woods or green or freshly cut hardwoods. DO NOT BURN: wood that has been treated with anything, including paint, varnish, stain, shellac, etc; garbage, cardboard, solvents, colored paper (such as catalog stock) or paper printed with colored inks or trash. Burning these may release toxic fumes and may "poison" the catalytic combustor, making it ineffective. Always remove the combustor when burning coal. Burning cardboard or loose paper can produce soot or large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room and rendering the combustor ineffective. NEVER BURN PRESSURE-TREATED WOOD in any stove (with or without a combustor), as it contains a toxic chemical, copper chromium arsenate, a form of arsenic. Burning plywood and chipboard or particle board will also produce toxins.

14. Do not operate the shaker grate(s) with the ashdoor open. Hot coals may fall out. To prevent the spread of dust we further suggest the loading door(s) be closed as well.

15. When using the rotating coal grates for ordinary shaking, rotate them 45 degrees. Rotate them 90 degrees only when you wish to dump the coal bed.

16. When disposing of ash, exercise extreme care. Ash frequently contains hot coals. Dispose of them in a non-combustible container with a tight-fitting lid. Do not dispose of them near a house. Remember, coals may remain hot for a long period of time, so they should never be dumped close to combustible materials. Do not store them in a garage – the possible presence of flammable gasses is a very dangerous situation.

17. Inspect your installation periodically for any evidence of deterioration.

18. Each stove comes with removable (slide-off) door handles. They should always be removed when the stove is fired, as they will otherwise become very hot and could cause burns. Small springs are provided to fit inside the handles so they will fall off in case you forget to remove them. A wall-hanging bracket, which can be secured to a wall with two screws, is provided to hold them when the stove is in use. The removable handles can also be used to adjust the dial dampers, and open or close the catalytic bypass damper. It is a very good idea to have a pair of insulated gloves for use when loading a stove so you won't accidentally burn your hand.

19. Fly Ash - When coal is burned, it produces fly ash, which may accumulate in the chimney, particularly around elbows. You should inspect your chimney twice monthly (more often if experience dictates) for fly ash if burning coal, and remove it if necessary.

20. Coal Gas - when coal is burned carbon monoxide is produced. Normally, this is drawn up the chimney like the smoke from a wood fire. However, unusual circumstances, such as an obstruction or leak in the chimney, may cause this gas to leak into the house. IT IS EXTREMELY DANGEROUS. While carbon monoxide is odorless, coal fires give off other gasses known as "aldehydes". Aldehydes have a distinctive "sour" odor. Thus a sour odor coming from your stove or chimney during a coal fire means carbon monoxide may be present. The first physical symptoms of carbon monoxide poisoning will normally be a severe headache, dizziness, and possibly an upset stomach. If sour odors or these symptoms are noticed you should (1) immediately open the doors and windows of your house to let in fresh air, (2) shut down the stove by closing the dial dampers all the way, (3) investigate further to determine whether the stove or chimney is leaking, (4) check to see if the chimney has become blocked, (5) if the source of the problem cannot be determined, call in a qualified installer for an inspection, and (6) correct the problem before burning again.

21. In the event of a chimney fire:
   a. Get everyone out of the house
   b. Close the three stove dampers
   c. Call the fire department

CONSOLIDATED DUTCHWEST

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