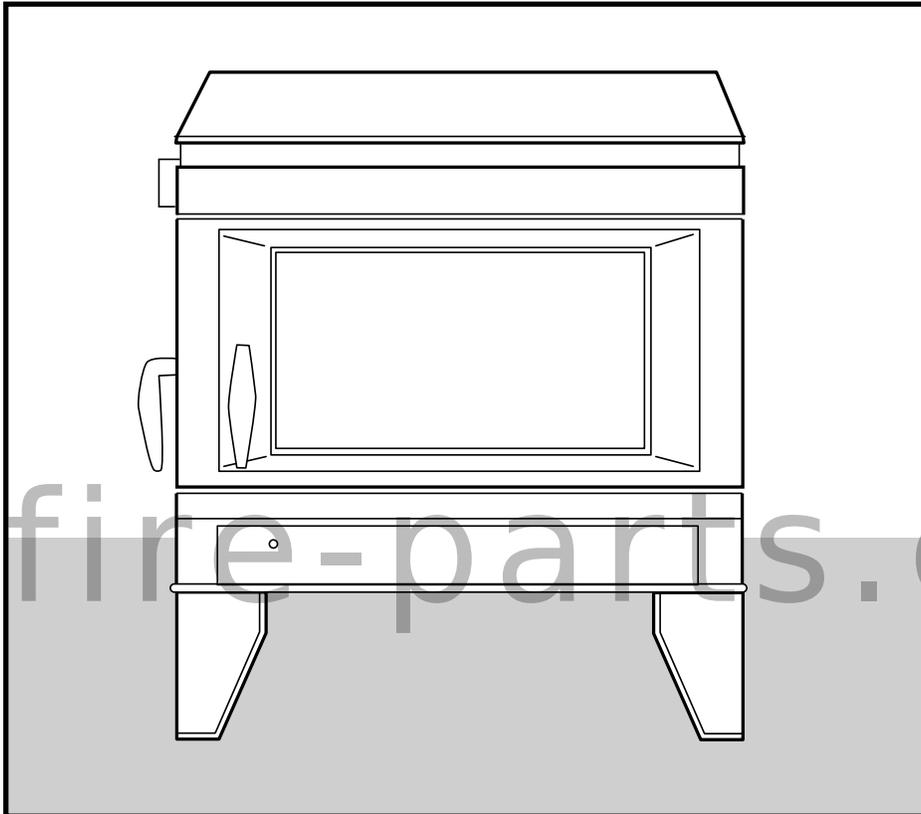


Dutchwest



Seneca

Model 2170

Homeowner's Installation and Operating Manual

SAFETY NOTICE

If this Seneca is not properly installed, operated, and maintained, a house fire may result. For safety, follow all installation, operation and maintenance directions. Contact local building officials about restrictions and installation inspection requirements in your area.

DO NOT DISCARD THIS MANUAL: Retain for future use

This manual describes the installation and operation of the Seneca Model 2170 catalytic-equipped wood heater. This heater meets the U.S. Environmental Protection Agency's emission limits for wood heaters sold after July 1, 1990. Under specific test conditions this heater has been shown to deliver heat at a rate ranging from 9,400 to 22,800 Btu's/Hr.

Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury or even death. In addition to directions on installations and operation, this manual includes directions on maintenance and assembly.

We recommend that you hire a professional solid fuel stove installer to install your stove, or to advise you on the installation should you attempt to install it yourself.

The Seneca has been tested and is listed by Warnock Hersey of Middleton, Wisconsin. The test standards ANSI/UL 1482 and ANSI/UL 737 for the United States and CAN/CSA-B366.2 for Canada. The Seneca is listed for burning wood. Do not burn other fuels. The Seneca is not listed for installation in mobile homes.

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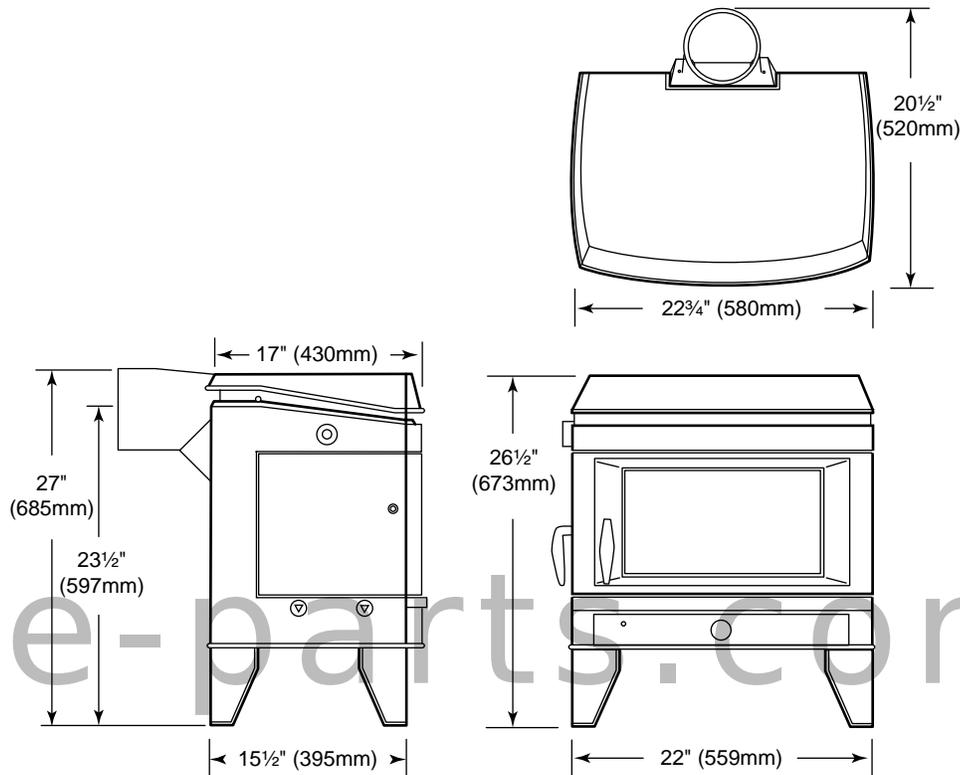
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Accessories

- #6061 Rear Heat Shield
- #6062 Bottom Heat Shield
- #0134 Fire Screen

Proposition 65 Warning: Fuels used in gas, woodburning or oil fired appliances, and the products of combustion of such fuels, contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. California Health & Safety Code Sec. 25249.6

Specifications



6063

Seneca, Model 2170

EPA Emissions rating	2.1 gph**
EPA Efficiency rating	72.0%**
Efficiency rating	72.0%***
Range of heat output.....	9,400 to 22,800 Btu's/hr.**
Maximum heat output.....	33,960 Btu's/hr.*
Maximum burn time	8 hours
Area heated.....	1,400 Square feet (132m ²)
Fuel Size/type	18" (460mm) wood logs
Fuel capacity	23 (10.4 kg.) pounds
Loading	Front or top
Chimney Connector	6" (150mm)
Chimney Flue Size	6" (150mm)
Flue exit position	Reversible, Top or Rear
Ash handling system	Removable ash pan
Glass panels	High-temperature ceramic
Weight	375 lbs. (171kg.)
Width (leg to leg)	22" (560mm)
Depth (leg to leg).....	15 1/2" (395mm)
Height to top of flue collar	
w/5" standard legs	Top exit: 26 1/2" (675mm)
.....	Rear exit: 27" (690mm)
w/Pedestal	Top exit: 30 1/2" (775mm)
.....	Rear exit: 31" (790mm)

* Maximum heat output based on laboratory testing using full loads of seasoned hardwood.

** Based on EPA emission testing standards.

*** Based on State of Oregon testing standards.

Fig. 1 Seneca specifications.

Installation

SAFETY NOTICE: IF YOUR SENECA HEATER IS NOT PROPERLY INSTALLED, OPERATED AND MAINTAINED, A HOUSE FIRE MAY RESULT. FOR SAFETY, FOLLOW ALL INSTALLATION, OPERATION AND MAINTENANCE DIRECTIONS. CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

Before you begin the installation, review your plans to confirm that:

- Your stove and chimney connector will be far enough from combustible material to meet all clearance requirements.
- The floor protector is large enough and is constructed properly to meet all requirements.
- You have obtained all necessary permits from local authorities.

Your local building official is the final authority for approving your installation as safe and for determining that it meets local and state codes.

Clearance and installation information is printed on the metal label attached to the rear of the stove. Local authorities generally will accept the label as evidence that, when the stove is installed according to the information on the label and in this manual, the installation meets codes and can be approved.

Codes vary in different areas, however. Before starting the installation, review your plans with the local building authority. Your local dealer can provide any additional information needed.

For any unresolved questions about installation, refer to the National Fire Protection Association's publication ANSI/NFPA 211-1988 Standard For Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances. In Canada, the equivalent publication is CSA CAN-B365, Installation Code for Solid Fuel Burning Appliances and Equipment. These standards are the basis for many national codes. They are nationally recognized and are accepted by most local authorities. Your local dealer or your local building official may have a copy of these regulations.

Important: Failure to follow these installation instructions may result in a dangerous situation, including a chimney or house fire. Follow all instructions exactly, and do not allow makeshift compromises to endanger property and personal safety.

Chimney Types

Your Seneca must be connected to a sound masonry chimney that meets local codes, a relined masonry chimney that meets local codes, or to an approved prefabricated metal chimney. Whatever kind you use, the chimney and chimney connector must be in good condition and kept clean.

Masonry Chimneys

If you use an existing masonry chimney, it must be inspected to ensure safe condition before the stove is installed. Your local professional chimney sweep, building inspector, or fire department official will be able either to make the inspection or to direct you to someone who can.

An inspection of the chimney must confirm that it has a lining. Do not use an unlined chimney. The chimney should also be examined for cracks, loose mortar, other signs of deterioration, and blockage. Repair any defects before the chimney is used with your stove.

Unused openings in an existing masonry chimney must be sealed with masonry to the thickness of the chimney wall, and the chimney liner should be repaired. Openings sealed with pie plates or wallpaper are a hazard and should be sealed with mortar or refractory cement. In the event of a chimney fire, flames and smoke may be forced out of these unused thimbles.

The chimney should be thoroughly cleaned before use.

A newly-built masonry chimney must conform to the standards of your local building code or, in the absence of a local code, to a recognized national code. Masonry chimneys must be lined, either with code-approved masonry or pre-cast refractory tiles, stainless steel pipe, or a code-approved, "poured-in-place" liner. The chimney's clean-out door must seal tightly.

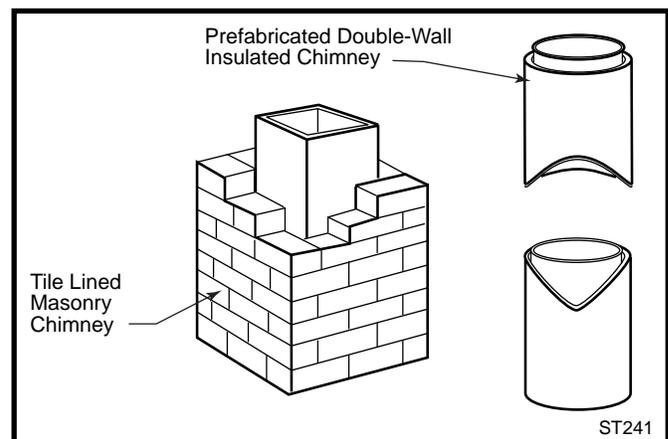


Fig. 2 If in sound condition and approved for use, either a masonry or a prefabricated chimney may be used.

Prefabricated Chimneys

A prefabricated metal chimney must be one tested and listed for use with solid-fuel burning appliances to the High-Temperature (H.T.) chimney Standard UL-103-1985 (2100°F.) for the United States, and High Temperature (650°C) Standard ULC S-629 for Canada.

Chimney Height

For proper draft and good performance, the chimney should extend at least 16' (5m) above the flue collar of the stove.

The chimney must also extend at least 3' (900 mm) above the highest point where it passes through a roof, and at least 2' (600mm) higher than any portion of a building within 10' (3m). (Fig. 3)

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

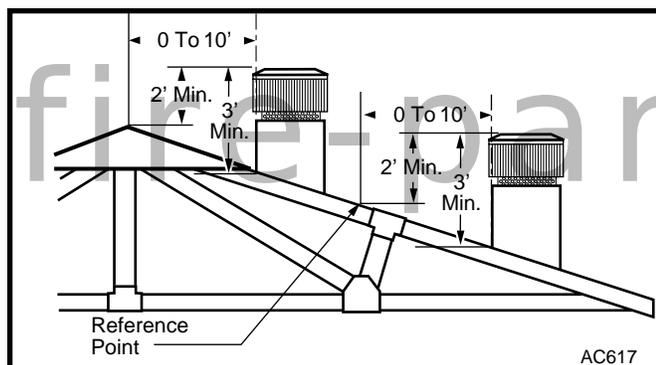


Fig. 3 The 2/3/10 rule for chimneys.

Chimney Size

A Seneca is approved for venting into a masonry chimney with a nominal flue size of 8" x 8" (200 x 200mm), and into a round flue size of 8" (200mm).

It may vented into larger chimneys as well. However, chimneys with liners larger than 8" x 12" (200 x 300mm) may experience rapid cooling of smoke and reduction in draft, especially if these chimneys are located on the home's exterior. These large chimneys may need to be insulated or may need to have their flues relined for proper stove performance.

Accessories to help make the connection between stainless steel chimney liners and the stove are available through your local dealer.

WARNING: Do not use double-wall chimney connectors with the Seneca unless they have been specifically tested and listed for use with this appliance. Use of double-wall chimney connectors that have not been tested and listed for use with the Seneca may result in temperatures exceeding the limits established by the test standards ANSI/UL-1482 or ULC S627. A potential hazard may result, including a house fire.

Chimney Connector Guidelines

The chimney connector is the single-wall pipe that connects the stove to the chimney. The chimney itself is a masonry or prefabricated structure that encloses the flue. Chimney connectors are used only to make the connection from the stove to the chimney.

Do not pass the chimney connector through a combustible wall or ceiling, or through an attic, a closet or any similar concealed space. If passage through a combustible wall is unavoidable, follow the recommendations in the following section on Wall Pass-Throughs.

The single-wall chimney connector should be made of 24 gauge or heavier steel, and may be either 6" (150mm) or 8" (200mm) in diameter.

Install the chimney connector not less than 18" (450 mm) from the ceiling. Keep the passage as short and direct as possible, with no more than two 90 degree turns. Slope horizontal runs of connectors upward 1/4" per foot (20mm per meter) going from the stove toward the chimney. The recommended maximum length of horizontal run is 3 feet (1m), and the total length of chimney connector should be no longer than 8 feet (2.5m).

In cathedral ceiling installations, extend the prefabricated chimney downward to within 8 feet (2.5 meters) of the stove. The entire chimney connector should be exposed and accessible for inspection and cleaning.

Do not use galvanized chimney connector; it cannot withstand the high temperatures that can be reached by smoke and exhaust gases and it may release toxic fumes under high heat.

Assembling the Chimney Connector

SAFETY NOTE: Always wear gloves and safety goggles when drilling, cutting or joining sections of chimney connector.

- Beginning at the flue collar of the stove, assemble the chimney connector. Insert the first crimped end into the stove's flue collar, and keep each crimped end pointing toward the stove. Using the holes in the flue collar as guides, drill 1/8" (3mm) holes in the bottom of the first section of chimney connector and

secure it to the flue collar with three #10 x 1/2" sheet metal screws.

- Secure each joint between sections of chimney connector, including telescoping joints, with at least three sheet metal screws. The predrilled holes in the top of each section of chimney connector serve as guides when you drill 1/8" (3mm) holes in the bottom of the next section.
- Secure the chimney connector to the chimney. Instructions for various installation follow.
- Be sure the installed stove and chimney connector are correct distances from nearby combustible material.

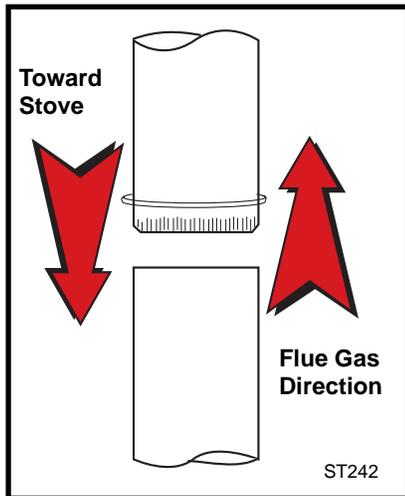


Fig. 4 Crimped sections always point toward the stove so that any liquid condensation will not leak out.

NOTE: Special slip pipes and thimble sleeves that form telescoping joints between sections of chimney connector are available to simplify installations. They can eliminate the need to cut individual connector sections. Consult your local dealer about these special pieces.

Securing the Connector to a Prefabricated Chimney

Follow the installation instructions of the chimney manufacturer exactly as you install the chimney. The manufacturer of the chimney will supply the accessories to support the chimney, either from the roof of the house, at the ceiling of the room where the stove is installed, or from an exterior wall.

Special adapters are available from your local dealer to make the connection between the prefabricated chimney and the chimney connector. The top of such adapters attach directly to the chimney or to the chimney's ceiling support package, while the bottom of the adapter is screwed to the chimney connector.

These adapters are designed so the top end will fit outside the inner wall of the chimney, and the bottom end will fit inside the first section of chimney connector. Any soot or creosote falling from the inner walls of the chimney will stay inside the chimney connector.

Securing the Connector to a Masonry Chimney

The Seneca may be connected to either a freestanding masonry chimney or a masonry fireplace chimney.

Freestanding Installations

If the chimney connector must pass through a combustible wall to reach the chimney, follow the recommendations in the wall pass-through section that follows.

The opening through the chimney wall to the flue (the "breach") must be lined with either a ceramic or metal cylinder, called the "thimble", which is securely cemented in place. (Fig. 5) Most chimney breeches incorporate thimbles, but check to be sure the fit is snug and the joint between thimble and chimney wall firmly cemented.

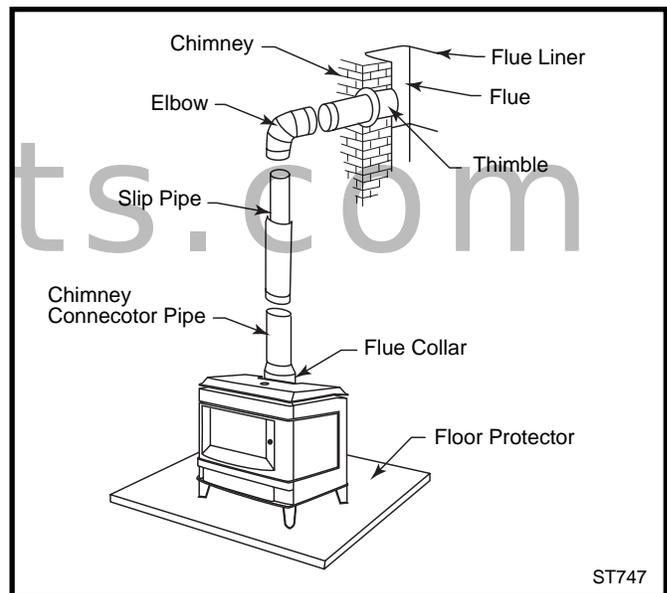


Fig. 5 Installing the chimney connector to a lined masonry chimney.

A special piece called the "thimble sleeve," slightly smaller in diameter than the standard connector and most thimbles, will ease the removal of the chimney connector system for inspection and cleaning. (Fig. 6) Thimble sleeves should be available from your local dealer.

To install a thimble sleeve, slide it into the breach until it is flush with the inner flue wall. Do not extend it into the actual flue passage, as that could interfere with the draft.

The thimble sleeve should protrude 1-2" (25-50 mm) into the room. Use furnace cement and thin gasketing to seal the sleeve in place in the thimble. Secure the chimney connector to the outer end of the sleeve with sheet metal screws.

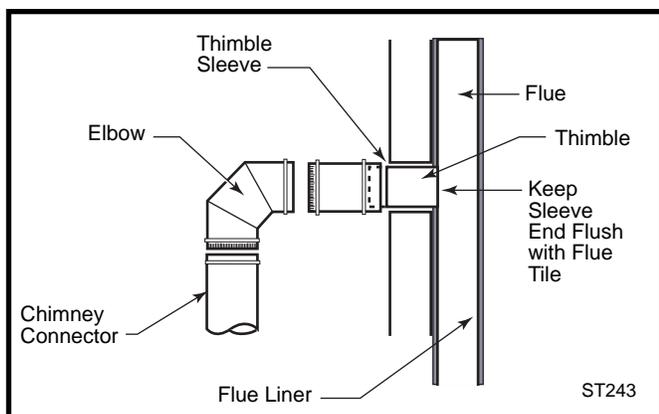


Fig. 6 The thimble, made of either ceramic or metal, must be cemented in place securely.

Fireplace Installations - Above the Fireplace

In this installation, the chimney connector rises from the stove, turns ninety degrees, and goes back into the fireplace chimney. The liner of the fireplace chimney should extend at least to the point at which the chimney connector enters the chimney. Follow all the guidelines for installing a chimney connector into a freestanding masonry chimney, and pay special attention to these additional points:

- Check the stove and chimney connector clearances to combustible mantel or trim materials. Use the necessary combination of mantel, trim, and connector heat shields to provide the required clearances. (Fig. 7)
- Double-check connector clearance from the ceiling.
- The fireplace damper must be closed and sealed to prevent room air from being drawn up the flue, reducing the draft. However, it must be possible to re-open the damper to inspect or clean the chimney.

Fireplace Installations - Through the Fireplace

If the height of your fireplace opening is at least 30 inches, you may install a Seneca through the opening using a "positive connection" kit available from your local dealer. These kits ensure a tight fit between the stove flue collar and the chimney flue.

Fireplace installations, whether connected to the flue above or through the fireplace opening, have special clearance requirements to adjacent trim and the mantel.

You will find the required safe clearances for Seneca fireplace installation on Page 10.

Floor protection requirements also apply to fireplace installation. Be sure to review the floor protection requirements on Page 8.

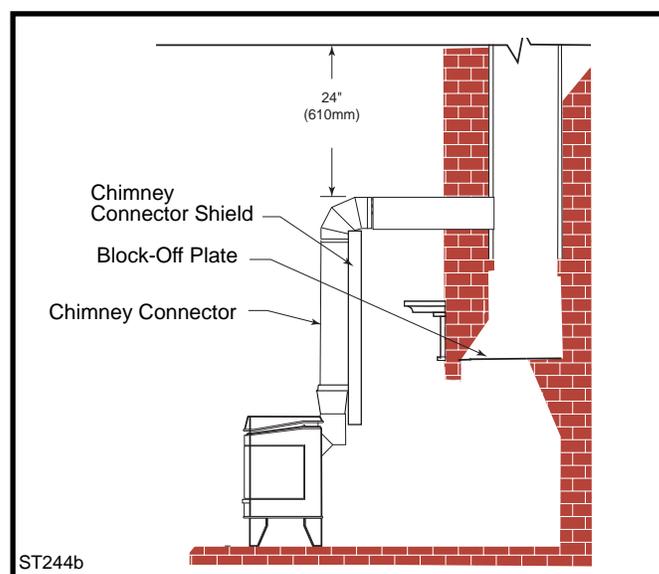


Fig. 7 The connector enters flue above the fireplace. If the clearance between the chimney connector and either the mantel and/or the ceiling is inadequate, special protective shields will be required.

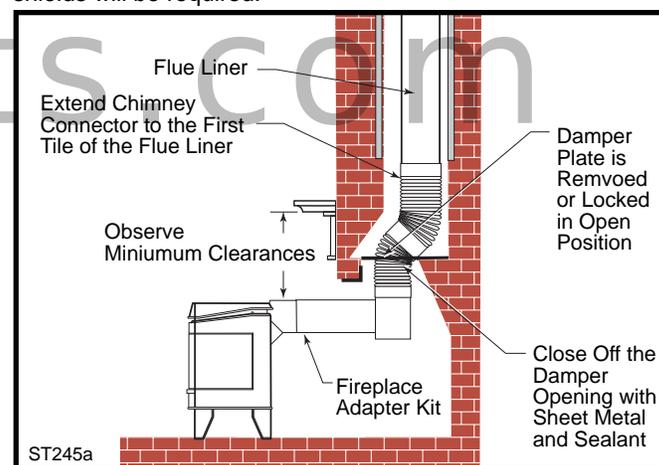


Fig. 8 The connector passes through the fireplace to enter flue. Special Fireplace Adapter Kits to simplify fireplace installations are available from your local dealer.

Wall Pass-Throughs

Whenever possible, design your installation so the connector does not pass through a combustible wall. If you must use a wall pass-through in your installation, check with your building inspector before you begin and construct it in accordance with local building codes. Also check with the chimney connector manufacturer for any specific requirements.

Accessories are available for use as wall pass-throughs. If using one of these, make sure it has been tested and listed for use as a wall pass-through.

In the United States, the national Fire Protection Association (NFPA) has established guidelines for passing chimney connectors through combustible walls.

Many building code inspectors follow these guidelines when approving installations.

Figure 9 shows one NFPA-recommended method. All combustible material in the wall is cut away a sufficient distance from the single-wall connector to provide the required 12" clearance for the connector. Any material used to close up the opening must be noncombustible.

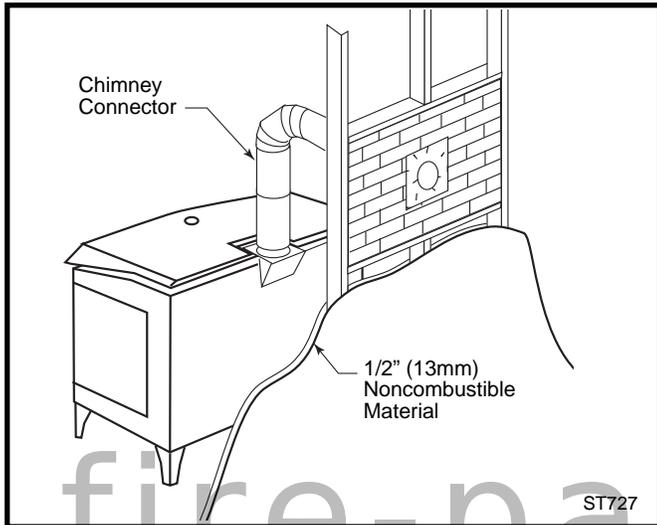


Fig. 9 Wall pass-through enclosed with noncombustible materials.

Three other methods are also approved by the NFPA. These are:

- Using a section of double-wall chimney with a 9 inch clearance to combustibles.
- Placing a chimney connector pipe inside a ventilated thimble, which is then separated from combustibles by six inches of fiberglass insulating material.
- Placing a chimney connector pipe inside a section of 8 inch diameter, solid-insulated, factory-built chimney, with two inches of air space between the chimney section and combustibles.

In Canada, the Canadian Standards Association has established different guidelines. Figure 10 shows one method, in which all combustible material in the wall is cut away to provide the required 18" (450mm) clearance for the connector. The resulting space must remain empty. A flush-mounted sheet metal cover may be using on one side only. If covers must be used on both sides, each cover must be mounted on noncombustible spacers at least 1" (25mm) clear of the wall. Your local dealer or your local building inspector can provide details of other approved methods of passing a chimney connector through a combustible wall. In Canada, this type of installation must conform to CAN/CSA-B365, Installation Code for Solid Fuel Burning Appliances and Equipment.

NOTE: Do not vent your Seneca into a factory-built (zero-clearance) fireplace. These appliances and their chimneys are specifically designed as a unit for use as fireplaces. It may void the listing or be hazardous to adapt them to any other use.

DO NOT CONNECT THE HEATER TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

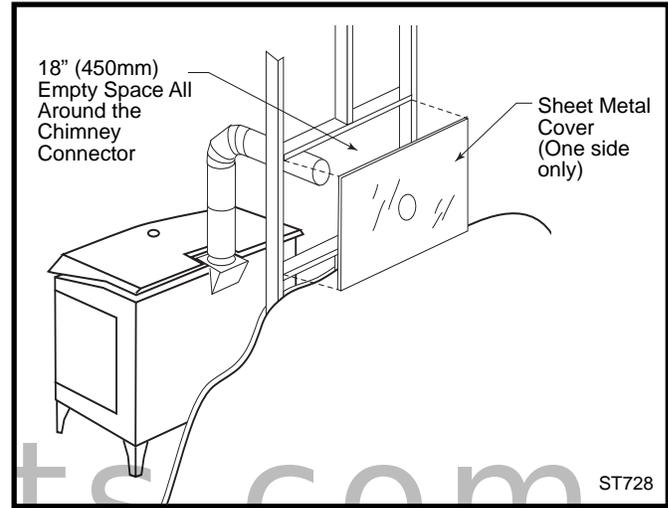


Fig. 10 Hollow wall pass-through.

Floor Protection

A tremendous amount of heat radiates from the bottom plate of your Seneca stove. The floor area directly under and around the stove will require protection from radiant heat as well as from stray sparks or embers that may escape the firebox.

Heat protection is provided through the use of a Dutchwest Bottom Heat Shield. Spark and ember protection must be provided by a floor protector constructed with noncombustible material as specified.

Most installations will require that the bottom heat shield be attached. Only when the stove is placed on a completely noncombustible surface such as unpainted concrete over earth may it be used without the heat shield.

Even when the bottom heat shield is installed, you must provide special protection to the floor beneath. For installation with the heat shield attached, use a noncombustible floor protector such as 1/4" non-asbestos mineral board or equivalent, or 24 gauge sheet metal. The floor protector may be covered with a decorative noncombustible material if desired. Do not obstruct the space under the heater.

Protection requirements vary somewhat between the United States and Canada as follows:

U.S. Installations: The floor protector is required under the stove and must extend at least 16 inches from the front and left (loading door) side of the stove, and at least 6 inches from the right side and rear. (Fig. 11) It must also extend under the chimney connector and 2 inches to either side. Refer to Figure 11 for minimum noncombustible floor protection dimensions.

To meet these requirements, a floor protector must be at least 44" wide and 43" deep.

In Canada: a noncombustible floor protector is required under the heater also. The floor protector must extend 18 inches (457mm) from the front and left (loading door) side of the stove, and at least 6 inches (150mm) from the right side and rear. (Fig. 11) It must also extend under the chimney connector and 2 inches to either side. Refer to Figure 11 for minimum noncombustible floor protection dimensions.

To meet these requirements, a floor protector must be 46" (1170mm) wide and 45" (1140mm) deep.

Due to the side loading door, floor protector requirements call for more protection on the left side than on the right. If you wish a more balanced look, increase the other side of the hearth as well. **Do not reduce side protection under any circumstances.**

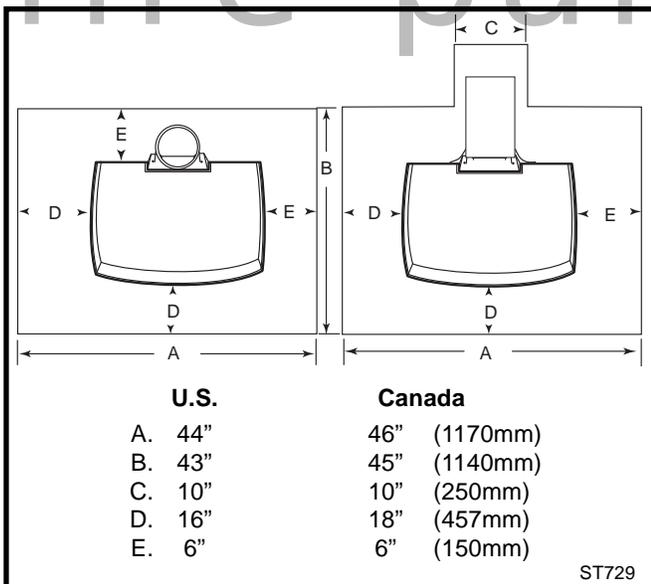


Fig. 11 Required floor protection dimensions.

Floor Protection for Fireplace

Do not assume that your fireplace hearth is completely noncombustible. Many fireplace hearths do not satisfy the "completely noncombustible" requirement because the brick or concrete in front of the fireplace opening is supported by heavy wood framing. Because heat passes readily through brick or concrete, it can easily pass through to the wood. As a result, such fireplace hearths can be a fire hazard and are considered a combustible floor. (Fig. 12)

For all fireplace installations, follow the floor protection guidelines described above. Keep in mind that many raised hearths will extend less than the required clearance from the front of the heater. In such cases, sufficient floor protection as described above must be added in front of the hearth to satisfy the minimum floor protector requirement from the front of the stove: 16" (410mm) in the United States and 18" (460mm) in Canada.

Hearth rugs do not satisfy the requirement for floor protection as they are not fire proof.

Fireplace installations also have special clearance requirements to the side walls, side decorative trim and fireplace mantel. Refer to the information on fireplace and mantel trim shields in this section.

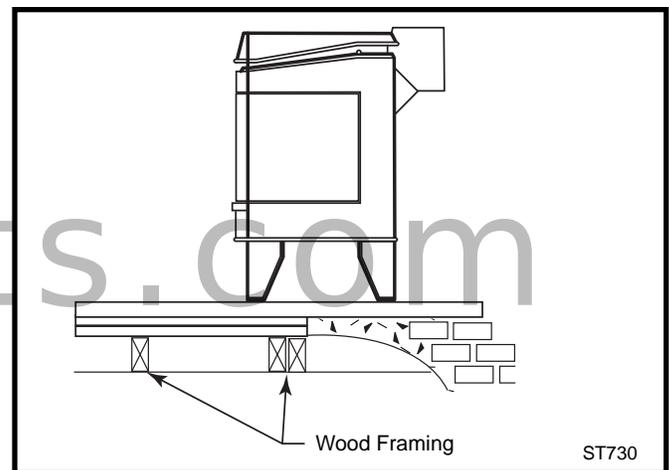


Fig. 12 Combustible supporting timbers may lie beneath fireplace hearths; such situations require additional floor protection.

Keep the Stove a Safe Distance from Surrounding Materials

Both a stove and its chimney connector radiate heat in all directions when operating. A safe installation requires that adequate *clearance* be maintained between the stove and nearby combustible materials to ensure that such materials do not overheat.

Clearance is the distance between either your stove or chimney connector, and nearby walls, floors, the ceiling, and any other fixed combustible surface. Keep furnishings and other combustible materials away from the stove as well. In general, a distance of 48" (1220 mm) must be maintained between the stove and moveable combustible items such as drying clothes, furniture, newspapers, firewood, etc. Keeping those clearance areas empty assures that nearby surfaces and objects will not overheat.

Safe Ways to Reduce Clearances

Your stove has specific clearance requirements that have been established through careful research and testing to UL and ULC standards.

Clearance requirements have been established to meet every installation possibility, and they involve the combination of basic variables:

- When the stove *has no* listed heat shield
- When the stove *has a* listed heat shield
- When the wall *has no* heat shield
- When the wall *has a* heat shield
- When the stove *has a* double-wall chimney connector.
- When the stove has a single-wall connector with heat shields, or without heat shields.

In general, the greatest clearance is required when you locate a stove with no heat shield near a wall with no heat shield. The least clearance is required when both the stove and the wall have heat shields. Reducing a stove clearance may require a listed heat shield on the chimney connector as well, or a double-wall connector. Clearances may be reduced only by means approved by the regulatory authority and in accordance with the clearances listed in this manual. The charts and sample installations that follow list all the clearances required for the various installation configurations of Seneca.

Wall Shields

One way to reduce clearances is with a wall shield constructed of 24 gauge or heavier sheet metal, or of another noncombustible material such as 1/2" (13 mm) insulation board such as Durock® or Wonderboard®, or common brick "laid on flat," with the 3 1/2" (90 mm) side down.

Shields must be spaced out from the combustible surface 1" (25 mm) on noncombustible spacers, as in Figure 13. The spacers should not be directly behind the stove or chimney connector.

Air must be able to flow between the wall and the shield. At least 50% of the bottom 1" (25 mm) of the shield must be open, and the shield must be open at the top. Metal screening across the top will keep small stray objects from being trapped behind the shield. (Fig. 13)

Fireplace and Mantel Trim Shields

A fireplace installation requires special clearance between the side of the stove and the right and left walls, between the side of the stove and the decorative side trim on the fireplace face, and between the top of the stove and the mantel.

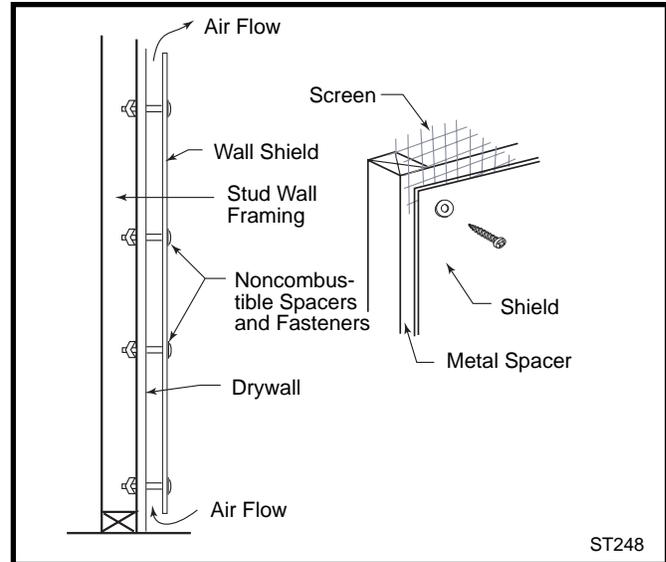


Fig. 13 Approved wall shield construction.

Noncombustible shields installed 1" (25mm) away from the combustible surface on noncombustible spacers, called ventilated shields, may be used to reduce clearances.

To protect a mantel from the heat of a stove in a fireplace installation, use a custom-made ventilated mantel shield that is at least 48" (1220mm) long, centered over the stove. (Fig. 14) Ventilated shields for side trim must extend the full length of the trim.

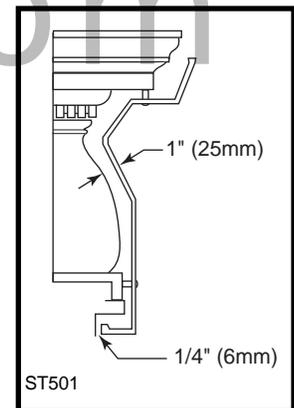


Fig. 14 A custom-formed mantel shield.

An unprotected mantel ("A", Fig. 15) cannot be more than 9" (230mm) deep and must have a minimum clearance of 39" (991mm), measured

from the stove's top plate. With a ventilated shield, this clearance may be reduced safely to 23" (584mm).

Unprotected top trim (B) protruding 9" (230mm) or less from the face of the fireplace must be a minimum of 39" (991mm) from the stove's top surface. With a ventilated trim shield, this clearance may be reduced safely to 23" (584mm).

Unprotected side trim (C) that protrudes 2" (50mm) or less from the face of a fireplace must have a minimum clearance of 14" (356mm), measured from the stove's top side edge. With a ventilated trim shield, the clearance may be reduced safely to 6" (152mm). If the trim extends more than 2" (50mm), it is subject to the requirements for wall clearance.

The charts and sample installations that follow list all the clearances required for the various installation configurations of the Seneca.

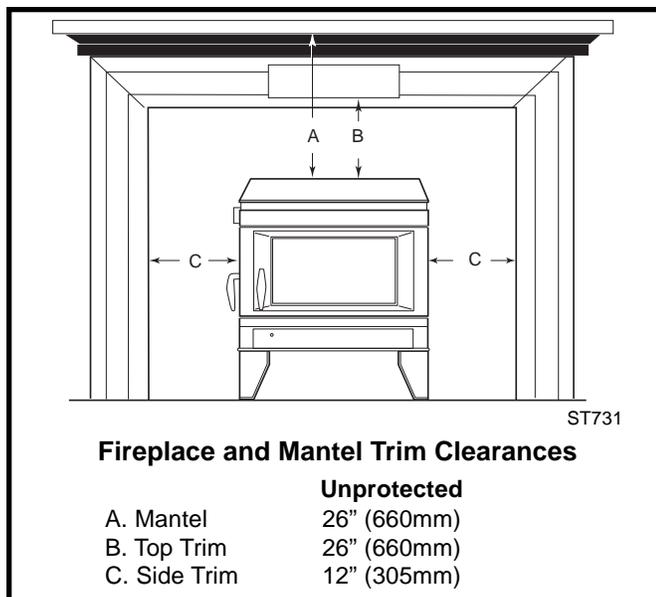


Fig. 15 Maintain clearances to combustible components of the mantelpiece.

fire-parts.com

Seneca Clearance Chart

	Stove Clearance					
	Unprotected Surfaces			Protected Surfaces		
	Stove Installed Parallel to Wall		Stove in Corner	Stove Installed Parallel to Wall		Stove in Corner
	Side	Rear	Corners	Side	Rear	Corners
No stove heat shields	(A) 18" (460mm)	(B) 28" (710mm)	(C) 21" (530mm)	(D) 8" (200mm)	(E) 20" (510mm)	(F) 13" (330mm)
Stove, top exit with rear heat shield, no connector heat shields¹	(G) 18" (460mm)	(H) 28" (710mm)	(I) 21" (530mm)	(J) 8" (200mm)	(K) 20" (510mm)	(L) 13" (330mm)
Stove, top exit with rear heat shield, and heat shields on connector^{1,2}	(M) 18" (460mm)	(N) 20" (510mm)	(O) 13" (330mm)	(P) 8" (200mm)	(Q) 20 ^{***} (510mm)	(R) 13" (330mm)
Stove, rear exit with rear heat shield only	(S) 18" (460mm)	(T) 16" (410mm)	N/A	(U) 8" (200mm)	(V) 10" (255mm)	N/A
	Chimney Connector Clearance					
	Unprotected Vertical Surfaces			Protected Vertical Surfaces		
No chimney connector heat shields	24" (610mm)			16" (410mm)		
Chimney connector heat shields installed ²	16" (410mm)			16" (410mm)		
	Clearance to Combustibles in Front of Stove					
	All Installations 48" (1220 mm)					

¹ Shielding for a top exit stove must include a shield insert to protect the area behind the flue collar.

² Chimney connector heat shields must extend exactly 28" (710mm) above the flue collar of the stove.

****** The rear clearance may be reduced to a minimum of 15" (381mm) and chimney connector clearance reduced to a minimum of 12" (305mm) if:

- a. The wall shield is at least 77" high and 48" wide, and the shield is constructed as shown on Page 10.
- b. The chimney connector heat shield extends exactly 23" (584mm) above the flue collar of the stove.
- c. A 24" (610mm) in diameter ceiling heat shield is installed.

Seneca Clearance Diagrams

Unprotected Surfaces		Protected Surfaces	
Stove Installed Parallel to Wall	Stove in Corner	Stove Installed Parallel to Wall	Stove in Corner
Top Exit Installations, no heat shields			
Top Exit Installations, rear heat shield, no connector heat shields.			
Top Exit Installations, rear heat shield, heat shield on connector.			
Rear Exit Installations, rear heat shield only.			

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Wall Shield Requirements for Common Seneca Installations

NOTE: Add 3/4" (95mm) to the height of a wall shield when using the optional pedestal instead of the legs.

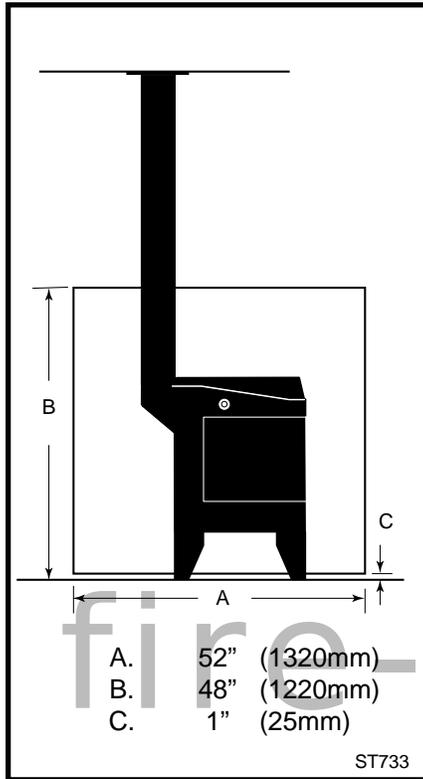


Fig. 16 Side wall shield dimensions for a top exit installation.

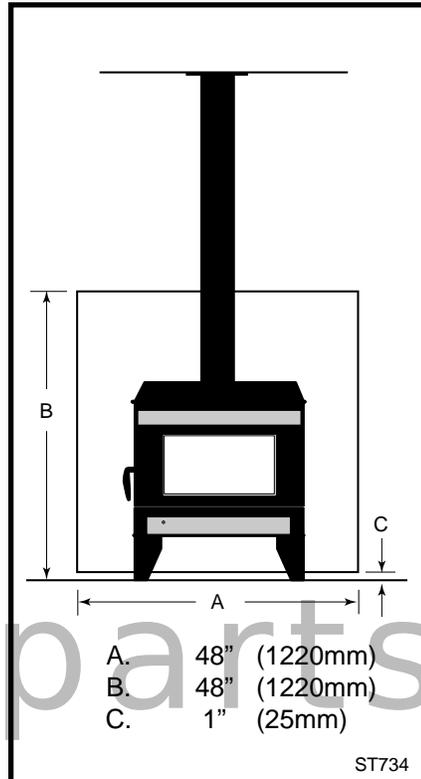


Fig. 17 Rear wall shield dimensions for a top exit installation.

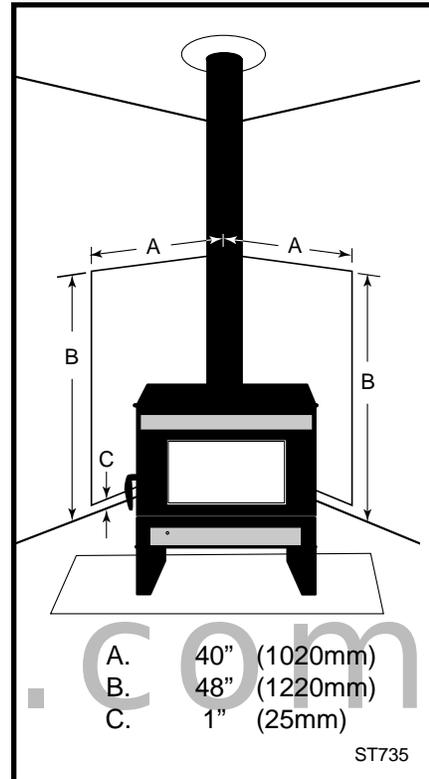


Fig. 18 Wall shield dimensions for a top exit corner installation. The shields must meet at corner.

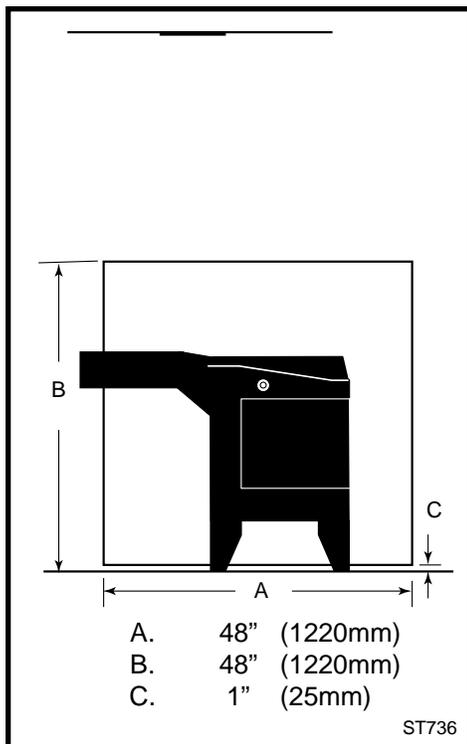


Fig. 19 Side wall shield dimensions for a rear exit installation.

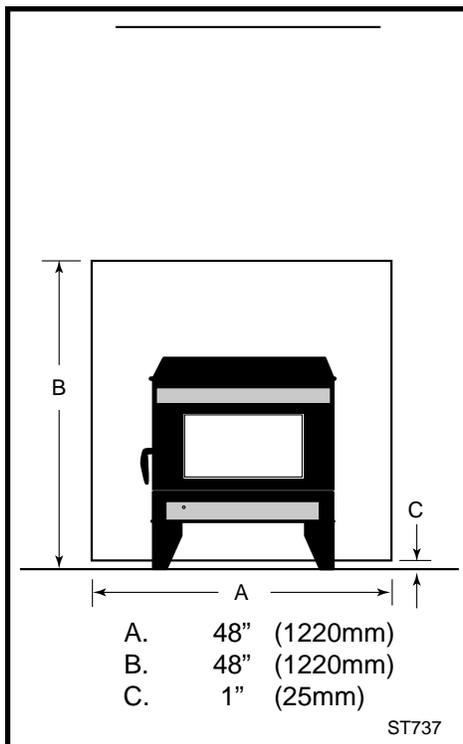
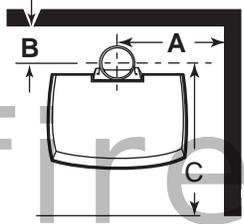
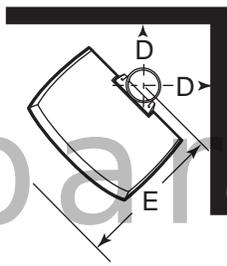
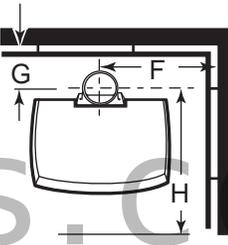
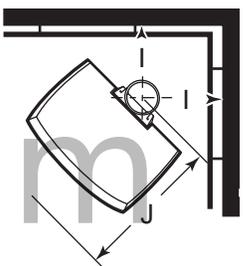
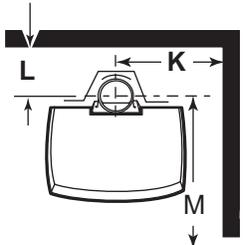
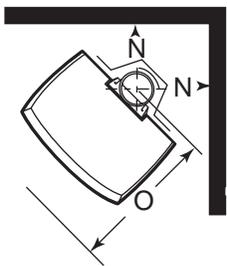
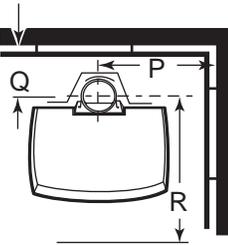
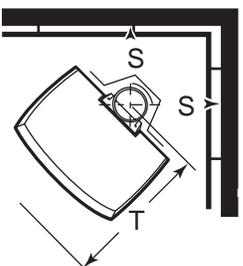


Fig. 20 Rear wall shield dimensions for a rear exit installation.

Distance from the Center of the Flue Collar to the Wall in Top Exit Seneca Installations

The information on this page is helpful in planning stove placement for top exiting installations, particularly those installations with chimneys that pass through the ceiling. However, this is not a clearance chart. For clearance information, refer to the clearance chart on Page 12. The terms "Side" and "Rear" refer to the distance from the center of the flue collar to the respective wall. The term "Front" refers to the distance from the center of the flue collar to the front edge of the hearth. The asterisk indicates U.S./Canada.

Seneca WITHOUT Stove and Chimney Connector Heat Shields									
Unprotected Surfaces					Protected Surfaces				
Stove Installed Parallel to Wall			Stove in Corner		Stove Installed Parallel to Wall			Stove in Corner	
Side (A)	Rear (B)	Front (C)	Corners (D)	Front (E)	Side (F)	Rear (G)	Front (H)	Corners (I)	Front (J)
29" 737mm	26¼" 667mm	34" / 36"* 915mm	27½" 700mm	34" / 36"* 915mm	19" 483mm	18¼" 464mm	34" / 36"* 915mm	19½" 495mm	34" / 36"* 915mm
									

Seneca WITH Stove and Chimney Connector Heat Shields									
Unprotected Surfaces					Protected Surfaces				
Stove Installed Parallel to Wall			Stove in Corner		Stove Installed Parallel to Wall			Stove in Corner	
Side (K)	Rear (L)	Front (M)	Corners (N)	Front (O)	Side (P)	Rear (Q)	Front (R)	Corners (S)	Front (T)
29" 737mm	28¼" 464mm	34" / 36"* 915mm	19½" 495mm	34" / 36"* 915mm	19" 483mm	15" 381mm	34" / 36"* 915mm	19½" 495mm	34" / 36"* 915mm
									

Assembly

Unpack the Parts

Remove all loose parts from the firebox and the ash pan. Check to make sure all the parts are included and intact. You should have received:

- 1 fully assembled heater body, (with catalytic burner installed in its chamber below the stove top)
- 4 legs
- 1 ashpan containing:
 - 1 replacement Interam gasket, for combustor
 - 1 ceramic handle for use on the doors
 - 1 brass handle for use on dial dampers
 - 1 bag of hardware used for assembly, including the following:
 - To attach legs to stove
 - (4) 1/4-20 x 1" hex head bolts
 - (4) 1/4" washers
 - For tightening the door latch
 - (1) 5/32" Allen wrench
 - Also
 - (1) spring which fits inside the square socket in the iron part of the brass handle and will push the handle off the stove in case you forget to remove it after adjusting the dial dampers. This keeps the handle from getting hot.

The ceramic handle will operate the doors and damper. The brass handle will operate the dial dampers.

The hardware in your stove is in standard US sizes. Most bolts are 1/4"-20, with 7/16" heads.

If any parts are missing or damaged, immediately notify your Seneca dealer for replacements. Do not install your stove without having all necessary parts or by using damaged parts.

Attach the Legs and Heat Shield

Since you have already received delivery of your Seneca, you are aware of how heavy it is. To safely accomplish the setup and installation of the Seneca, you should have two or more strong assistants to help move it.

Place the stove on its back on a soft surface such as a couple of old blankets. Tilt it carefully. Protect surrounding carpet with an old blanket or sheet.

Place a 1/4-20 x 1 1/4" bolt through the leg. Position the leg, and fasten it to the stove with a wrench. Repeat this step for each of the four legs.

Next, screw the spacers into the bottom of the stove and fasten the bottom heat shield to the spacers. Now you can raise the stove onto its legs.

Install Catalytic Probe

- Locate the hole in the top of stove.
- Insert a 1/4" drill bit in the hole and rotate it with your fingers to clear a path for the probe.
- Insert the probe stem into the stove top and through the prepared opening.

Install Air Duct for Outside Air

If your installation will include outside air for combustion, follow these directions for attaching the three inch duct to the stove:

- Locate the 3" outside air port on the left side of the stove's back plate (as seen when facing the back of the stove). Note the hole at the 9:00 o'clock position on the flange of the air port; a sheet metal screw is inserted through the hole and into the pipe to secure the pipe to the stove.
- Insert the crimped end of the 3" duct into the air port until it makes contact with the stop.
- Mark the pipe through the flange hole with a marker or pencil.
- Remove the pipe and drill a hole through the marked spot with a 1/8" bit.
- Insert the pipe back into the air port, line up the holes in the pipe and flange, and secure the two together with a #10 sheet metal screw.

Operation

The Seneca Controls

Air Controls

The Seneca has two air controls that regulate the amount of air drawn into the stove. Generally, more air entering the stove allows the fire to burn hotter and faster, while less air decreases heat output while prolonging the overall burn time.

The **Primary Air** control lever is located on the upper right side of the stove front. It is the primary source of air for starting and maintaining fires. It opens when moved clockwise and closes when moved counterclockwise.

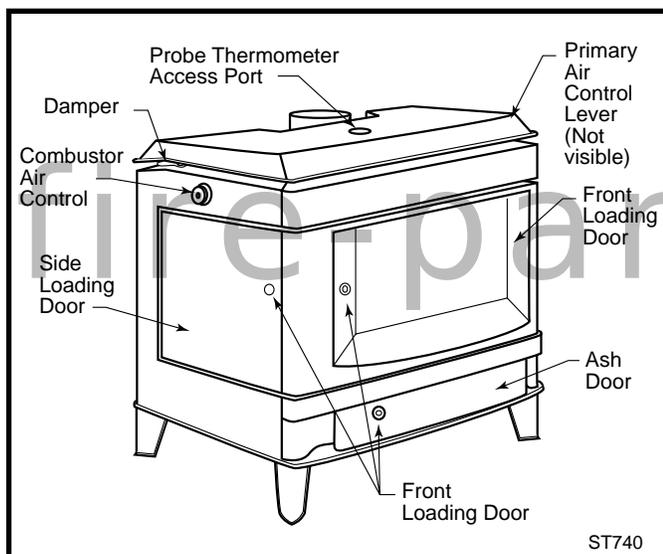


Fig. 21 The heater controls.

A **Combustor Air Control** is located on the left side of the stove, above the side loading door, and delivers preheated air to a strategic internal site to aid catalytic combustion. Turn counterclockwise to open and clockwise to close.

Damper Function

The **Damper** is operated by moving the small, square knob on the left side of the stove. It has two positions: open, to start or revive the fire; and closed for greatest efficiency and heat. Using the multipurpose door handle, rotate the damper knob counterclockwise to open the damper and clockwise to close it.

The stove damper must be open when starting a fire, when reloading fuel (for a short time only), and when the side or front doors of the stove are opened for any reason.

Load Doors

A **Side Loading Door** allows the easiest loading of wood logs. The **Front Door** opens for adding an occasional log to the fire. The front door may also be opened wide and the spark screen (included with stove) placed in the opening for safe, fireplace-style viewing. When the front door is closed, the fire may still be viewed through the large ceramic viewing window.

A Probe Thermometer Port Provides Access to Internal Temperatures

Insert the **Probe Thermometer** into the access port (see directions on Page 16) as a valuable guide that will tell you when to open and close the stove damper, when to increase or decrease the air supply, whether or not the stove's catalytic combustor is working properly, and when to add fuel.

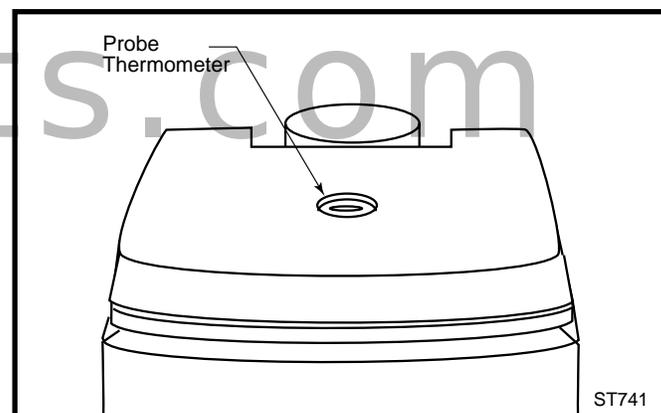


Fig. 22 The probe thermometer is a valuable guide to stove operation.

Successful Wood Burning

Woodburning is often said to be more of an art than a science. You'll easily master the art if you start by using good, dry fuel and by understanding how the stove's air supply system operates.

Burn Only High-Quality Fuel

Your heater is designed to burn natural wood only. Do not burn other fuels. Never burn pressure-treated wood, painted or stained wood, or glossy newsprint.

High efficiencies and low emissions are possible when burning air-dried, seasoned woods as compared to softwoods or freshly cut hardwoods. Avoid burning "green" wood that has not been properly seasoned.

The best hardwood fuels include oak, maple, beech, ash, and hickory that has been split, stacked, and air-dried outside under cover for at least one year. If

hardwood is not available, tamarack, yellow pine, white pine, Eastern red cedar, fir, and redwood are softwoods that are commonly burned. They too should be properly dried. The length of the wood should be the same as that specified for your particular stove. Avoid using wood that has been dried more than two years. Often gray in color, this wood burns very quickly, resulting in short burn time and diminished stove performance. If you must burn it, mix it in with greener wood to slow the burn.

The length of the wood should be 16" - 18" (410-460mm).

Store your firewood under cover to keep it dry. Even for short-term storage, keep wood a safe distance from the heater and keep it clear of the areas around the heater used for refueling and ash removal.

Use the Air Control Settings that Work Best for You

No single combination of control settings will fit every situation. Each installation will differ depending on the quality of the fuel, the amount of heat desired, and how long you wish the fire to burn.

Control settings also depend on your particular installation's "draft," or the force that moves air from the stove up through the chimney. Draft is affected by such things as the height, type, and location of the chimney, local geography, nearby obstructions, and other factors.

Too much draft may cause excessive temperatures in the stove. On the other hand, too little draft can cause backpuffing into the room and/or the "plugging" of the chimney and catalytic burner.

How do you know if your draft is excessively high or low? Symptoms of too much draft include an uncontrollable burn or a glowing-red part of the stove or chimney connector. A sign of inadequate draft is smoke leaking into the room through the stove or chimney connector joints.

In some newer homes that are well-insulated and weather-tight, poor draft may result from insufficient air in the house. In such instances, an open window near the stove on the windward side of the house will provide the fresh air needed.

Another option for getting more combustion air to the stove is to duct air directly from the outside to the stove. In fact, in some areas provisions for outside combustion air are required in all new construction.

Your Seneca is designed to incorporate outside combustion air, and directions for installing an outside air duct may be found in the Assembly section.

When first using the stove, keep a record of the results you achieve from different control settings. You will find

that specific control settings will give you a fixed amount of heat. It may take a week or two to determine the amount of heat and the length of burn you should expect from various control settings.

Most installations do not require a large amount of combustion air, especially if adequate draft is available. Do not for any reason attempt to increase the firing of your heater by altering the air control adjustment range outlined in these directions.

Use the following air control settings as a starting point to help determine the best settings for your installation:

NOTE: To make the settings for these directions as clear as possible, imagine that the face of a clock is mounted behind the primary air control lever. Then, follow the directions to set the lever at the correct "time". (Fig. 23)

Seneca Control Settings

Burn Rate	Primary Air	Combustor Air
Low	5:00	3/4 turns
Medium	6:00	1 1/4 turns
High	7:30	Fully open (4 1/2 turns)

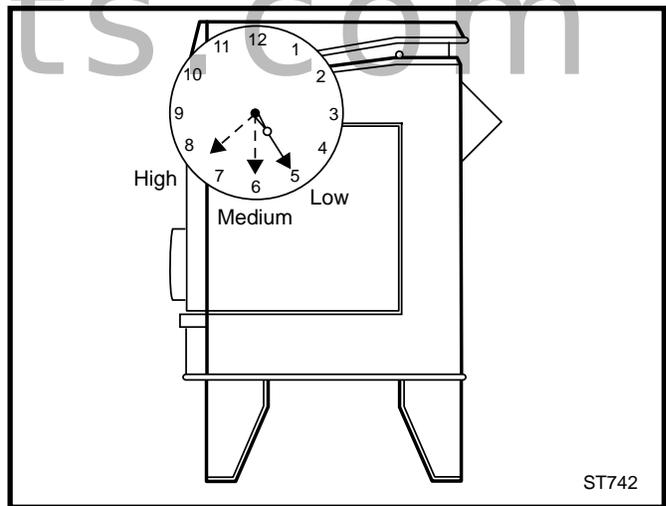


Fig. 23 Seneca control settings.

If your stove is equipped with an optional blower, it is important to follow these guidelines as well for best results:

At low-to-medium heat outputs, (a control setting of 5:00 to 6:00) the optional convection blower switch should be set on the "low" position, never on "high".

At higher heat outputs, (above 6:00) the blower can be set on high if desired.

DO NOT OPERATE THE STOVE WITH THE ASH DOOR OPEN. OPERATION WITH THE ASH DOOR OPEN CAN CAUSE AN OVERFIRING CONDITION TO OCCUR. OVERFIRING THE STOVE IS DANGEROUS AND CAN RESULT IN PROPERTY DAMAGE, INJURY, OR LOSS OF LIFE.

How to Build a Wood Fire and Keep it Going

A Seneca leaves the factory with the catalytic combustor installed.

In the United States it is against the law to operate this wood heater in a manner inconsistent with the operating instructions in this manual, or if the catalytic combustor is deactivated or removed.

High-Efficiency Wood Burning with Catalytic Combustion

Smoke from a wood fire is really escaping energy that has not been burned to produce the heat. Combustion temperatures of 1100°F (595°C) are required to burn the smoke, and a level this high seldom is present in a fire set to burn several hours. As a result, long fires in conventional stoves lose a great deal of potential heat up the chimney as smoke.

A catalytic combustor captures this heat by lowering the temperature at which smoke will burn. This makes high efficiency possible even with long, low level fires.

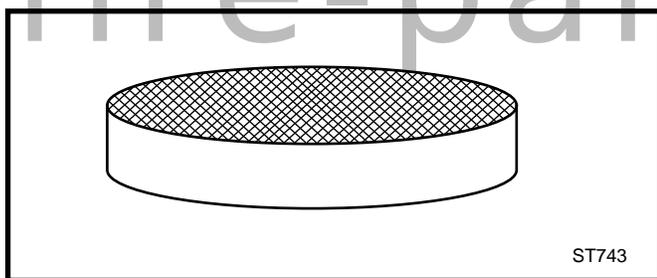


Fig. 24 High-efficiency performance when burning wood is a result of catalytic combustor that is coated with precious metals to cause smoke to burn at temperatures lower than normal.

Catalytic combustion is activated with two adjustments: by closing the stove damper, thereby exposing the smoke to the combustor, and by opening the combustor air control. The combustor needs extra air during medium and high burns, and the Seneca's combustor air control must be fully open to supply it. During low burns, the combustor air control should be open only a 3/4 turn.

Closing the stove damper also reduces the draft, so to avoid putting out the fire or deactivating the combustor, close the damper only when a fire is well established. When starting a fire, wait until the fire is well established and there is an ember bed of at least two inches before closing the stove damper.

Never kindle a fire with colored paper or paper that has colored ink or a glossy surface, and never burn treated wood, garbage, solvents, or trash. All of these may poison the catalyst and prevent it from operating

properly. Never burn cardboard or loose paper except for kindling purposes. This can cause smoke to spill into the room and effect the combustor operation.

In general, the temperature in the stove and the gases entering the combustion must be raised to approximately 800°F (430°C) to ensure that catalytic activity is initiated. During the start-up of a cold stove, a medium-to high-firing rate must be maintained for about twenty minutes. This ensures that the stove, catalyst and fuel are all stabilized at the proper operating temperatures.

Even though it is possible to have gas temperatures reach several hundred degrees within two to three minutes after a fire is started, the combustor may stop working or the fire may go out if the fire is allowed to die down immediately. Once the combustor starts working, heat generated by burning the smoke will keep it working.

The best operating range for the combustor is a reading of 1000-1400°F (540-760°C) on a probe thermometer. Temperatures over 1700°F (925°C) may damage the combustor.

To determine whether the combustor is operating, check the probe thermometer in the top of the stove. If it reads 800° (430°C) or higher, it is likely that the combustor is operating. If temperatures are lower than this, increase the intensity of the fire either by adding fuel or by increasing the amount of primary air.

Another way to tell if the combustor is working is to observe the amount of smoke leaving the chimney when the damper is activated and when it is not. This procedure is described on Page 24.

Conditioning Your Stove

Cast iron is extremely strong, but it can be broken with a sharp blow from a hammer or from the thermal shock of rapid and extreme temperature changes.

The cast plates expand and contract with changes in temperature. When you first begin using your Seneca, minimize thermal stress by allowing the plates to adjust gradually during three or four initial break-in fires following Steps 1-3 below.

Starting and Maintaining a Wood Fire

Wood may be loaded into the Seneca from either the front or the side. Loading from the front is useful for kindling a new fire or adding an occasional log, but we recommend side loading as the most convenient way of regularly adding several logs at a time.

Your Seneca may be operated with the front doors open, for fireplace-style viewing, as well as closed. The stove damper must be open and the **firescreen must be in place** whenever the door is open for fire viewing.

WARNING: For safety and greatest efficiency, operate your stove only with all doors fully closed. The test standard when the stove is operated in this mode is UL1482.

Your stove may be operated as a fireplace with the doors opened or removed only when the spark screen is placed correctly in the opening to protect against the possibility of sparks and embers leaving your stove. The test standard for your stove when it is operated in this mode is UL737.

Use only the Seneca spark screen, Part Number 0134, with your Seneca.

Seneca spark screens are available from your Dutchwest authorized dealer.

1. Open the stove damper, and open the primary air control fully. Open the combustor air control two turns.
2. Place several sheets of crumpled newspaper in the stove. Do NOT use glossy advertisements or colored paper, as they can poison the catalyst. Place on the paper six or eight pieces of dry kindling, split to a finger-width size, and on the kindling lay two or three larger sticks of split dry wood that are approximately 1-2" (25-50mm) in diameter.

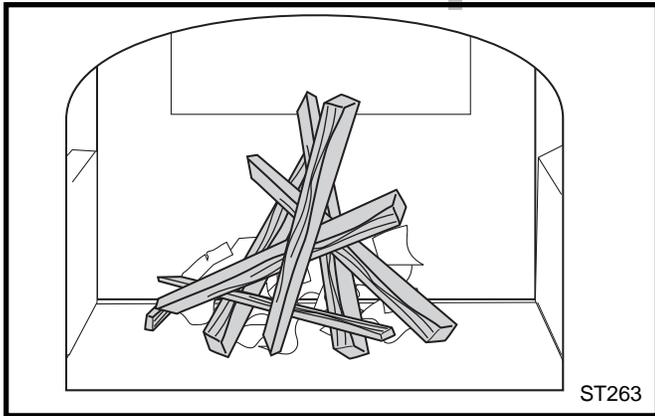


Fig. 25 The best wood is air-dried outside under cover for at least a year.

DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE. DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL. Also, never use gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.

3. Light the newspaper and close the door. Gradually build up the fire by adding a few 3-5" (80-120mm) diameter splits. If this is one of the first few "break-in" fires, let the fire burn brightly, and then let it die out.

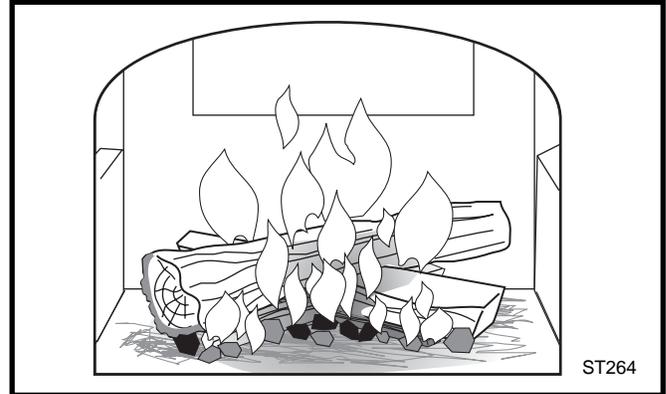


Fig. 26 Add larger pieces of wood as the fire begins to burn well.

If the break-in procedure has been completed, wait 10-15 minutes until the fire is well-established; gradually build it up by adding a few sticks at a time of a progressively larger size. Continue until you have a live ember bed about 2" (50mm) thick.

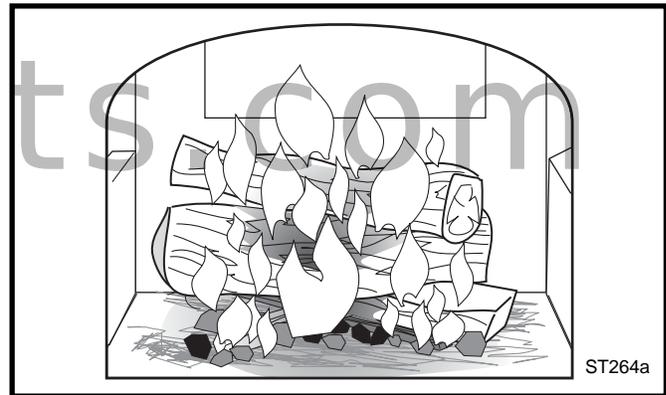


Fig. 27 Add full-size logs after the ember bed is 3" (75mm) deep.

You will soon find out that this stove is **HOT WHILE IN OPERATION! KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

NOTE: Some chimneys need to "primed", or warmed up, before they will draw sufficiently to start a fire. To correct this situation, roll up a couple pieces of newspaper, place them on top of the kindling and toward the back of the stove, light them and close the doors. This should heat the chimney enough to initiate a draft.

Once the draft is established, open the front door and light the rest of the fuel from the bottom. Do not light the main bed of fuel until the chimney begins drawing, and repeat the procedure as often as necessary if the initial attempt is unsuccessful.

4. After the temperature on the probe thermometer has reached 500-800°F (260-430°C) (depending on your individual wood and draft situation), close the stove damper. This will activate the combustor, causing the temperature on the probe thermometer to

increase over an approximate 30 minute period. The probe temperature will peak during the first 2/3 of the burn time and then fall after the volatiles have burned off. To ensure continued operation of the combustor, let the temperature approach 1000°F (540°C) before reducing the air settings.

- Close the primary air control to a medium setting, or about 6:00 on the imaginary clock face referred to on Page 18. The fire volume will diminish immediately, but the stove will continue to warm up. Maintain control of the fire using the primary air and combustor air controls, and remember: reduce the setting for a smaller fire, increase the setting for a larger fire. Refer back to the air control settings chart on Page 18 for recommended settings at different burn rates.

DO NOT OVERFIRE THIS HEATER. Overfiring may cause a house fire, or can result in permanent damage to the stove and to the catalytic combustor. If an exterior part of the stove or the chimney connector glows, you are overfiring.

Reloading and Reviving a Wood Fire

When reloading, best results will be obtained if you first de-ash the stove by stirring the fuel bed to allow ash to fall through the grate into the ash pan.

Do not break the charcoal into very small pieces or pound or compress the charcoal bed.

It is important that air can circulate through the charcoal bed during the burn. Larger pieces of charcoal allow more air to circulate under the wood and will result in the fire reviving more quickly, and will also encourage the stove to burn more cleanly.

Open the stove damper and wait at least fifteen seconds for the draft to increase. Open the door slowly, add the fuel, and then close the damper. Split wood will fill the firebox more completely and reduce the frequency of reloading.

Leave the stove damper open for a short time until the probe temperature reaches 800°F (430°C), then close it.

Sometimes the temperature will drop below 600°F (316°C) after reloading, particularly if the loading door is open a long time. Should the temperature drop below this level, stimulate the fire by increasing the primary air supply. Reduce the air supply when the temperature has reached 800°F (430°C).

NOTE: If the charcoal bed is relatively thick and your fuel is well-seasoned, it is possible to add fresh fuel and close the damper immediately, and adjust the air control for your desired heat output.

Remove and Store Ash Safely

Check the ash pan before reloading the stove. If the ash level is close to the top, empty the pan. Before replacing the ash pan, clear away any ash that has spilled over the sides and back of the pan.

Empty the ash drawer regularly, typically everyone to three days. The frequency will vary depending on how hot you run your stove: the hotter the fire, the more wood you burn, and the faster ash will accumulate.

Ash may contain hot coals and must be treated with extreme care.

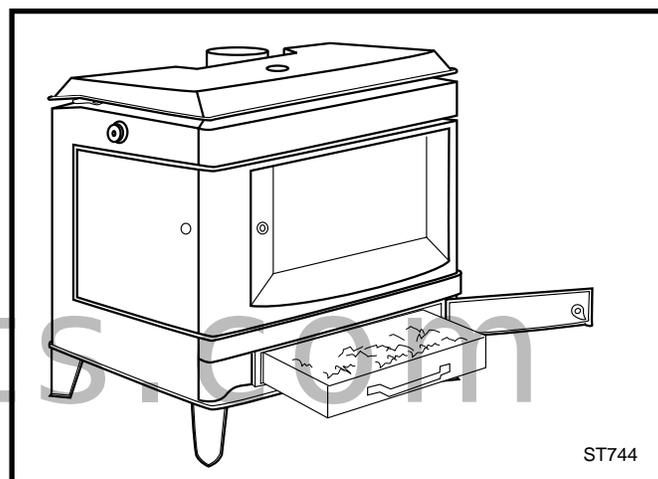


Fig. 28 Wear a heavy stove glove for protection when removing ash.

Always Dispose of Ash in a Safe Manner

Ash should be removed frequently and placed outdoors in a metal container with a tight-fitting lid. The closed container of ash should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ash is disposed of by burial in soil or otherwise locally dispersed, it should be retained in the closed container until all cinders have thoroughly cooled. Wood ash may be used as a garden fertilizer.

CAUTION: Never use a vacuum cleaner to remove ash from the stove; always remove and dispose of the ash properly.

Maintenance

Keep Your Stove Looking New And Working Its Best

Care of the Cast Iron Surface

An occasional dusting with a dry rag will keep the painted cast iron of your Seneca looking new.

If the paint needs retouching, allow the stove to cool completely. Wire-brush areas needing to be painted. Remove non-painted components such as air controls or cover them with masking tape. Touch up the stove with high temperature stove paint available from your local dealer. Apply the paint sparingly. Two light coats are better than one heavy one.

To remove stains or spills from porcelain enamel, first make sure the stove is completely cool. Use a dry rag or soft brush, and use only a kitchen appliance cleaner or polish recommended for enamel surfaces.

Cleaning the Glass

Most of the carbon deposits on the glass will burn off regularly during hot fires. If you wish to clean the glass more thoroughly, follow this procedure:

- Be sure the glass is completely cool.
- Use a glass cleaner especially made for this purpose.
- Dry the glass completely.

Repair Air Leaks to Prevent Overheating

Self-Adjusting Door Latches

A tight seal of the doors ensures precision control over the firing rate, and prevents inadvertent overfiring. The self-adjusting design of your stove's door latch enables you to control the tightness of the seal each time you close the door.

To achieve greater tightness, turn the handle more in a clockwise direction. Each movement of the handle draws the door closer to the stove.

Do not use excessive force when tightening the door latch. A tight seal is made when only moderate pressure is applied to the handle.

The set screw holding the door latch to the shaft should be tight. If necessary, use the Allen wrench supplied with the stove to tighten the screw.

Test And Repair the Door Gaskets

Air leaks can be caused by low spots in the door gaskets. To locate such low spots, close each door on a slip of paper and attempt to pull the paper free. If the paper slips out without tearing, the gasket isn't snug enough at that spot.

If the seal cannot be improved by adjusting the door latch, try shimming the gasket. Pack a small quantity of cement or a smaller diameter gasket into the channel beneath the gasket to lift the main gasket and thereby improve its contact with the door frame.

If shimming does not improve the seal, replace the gasket following these steps:

1. Remove the original gasket by grasping an end and pulling firmly.
2. Wearing safety goggles, use a wire brush or the tip of a screwdriver to clean the channel of any remaining cement or bits of gasket. (Fig. 29)

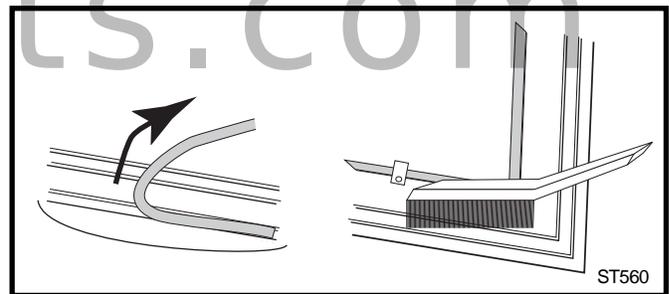


Fig. 29 Remove gasket then clean channel with wire brush.

3. Apply a thin bead of stove cement in the newly-cleaned groove. (Fig. 30)
4. Lay the gasket into the groove. Wait until you are a couple inches from the end before you cut it.

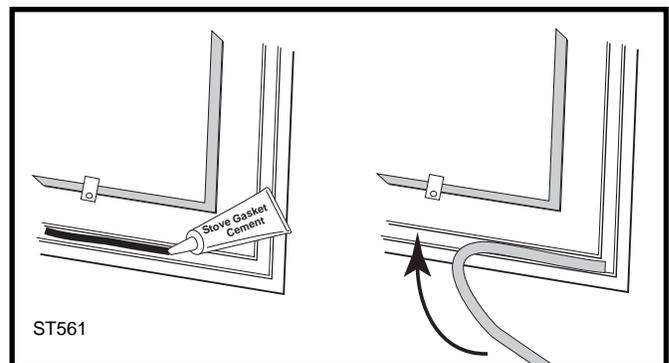


Fig. 30 Lay a bead of gasket cement then press gasket in place.

5. Test the gasket by closing the door on a slip of paper as described above. Adjust the gasket in any areas where an inadequate seal is evident.

All rope-type gasketing used in the Seneca is made of fiberglass. The gasket size for the front, side and ash doors, as well as for the top and inner top, is 3/8" diameter. The front door glass is sealed with a 3/16" gasket, while the flue collar employs a 1/4" size. Two small pieces of 1/4" wire gaskets are used inside the Seneca between the grate seals and the left side plate, and a special Interam® gasket wraps around the combustor to provide a seal.

Repair Missing Cement in Seams

The cement in the stove seams may deteriorate over time and fall out in places. Just as with the stove doors, it is necessary to keep the seam seals in good condition. Spot-fix with furnace cement (available from your local dealer) any areas where the cement seal is visibly deteriorated. Allow 24 hours for the new cement to dry after "washing down" seams.

Avoid Damaging the Glass Door Panel

Do not abuse the glass by slamming the door or striking the glass with a log. Never operate your stove if it has damaged or broken glass. If you need to replace the glass, use only replacement glass provided by your local Seneca dealer.

Replace Broken Glass Immediately

Prepare to replace the glass in your stove by first clearing a large flat area nearby to use as a work surface. Place in order the pieces that you disassemble. This will be a great help when you put the pieces back together.

To remove the glass:

1. Open the front door. Lift the door gently while raising the end nearest you slightly. This will cause the bottom hinge pin to leave its seat. Once the bottom hinge pin is free, lower the door to free the top hinge pin. Place the door face down on a padded surface.
2. Remove the four #10 screws holding the stainless steel glass retaining clips on the left and right sides of the glass. Remove the clips, and lift the glass off the brass frame. Lift broken glass carefully to avoid being cut.
3. Remove the old gasket.

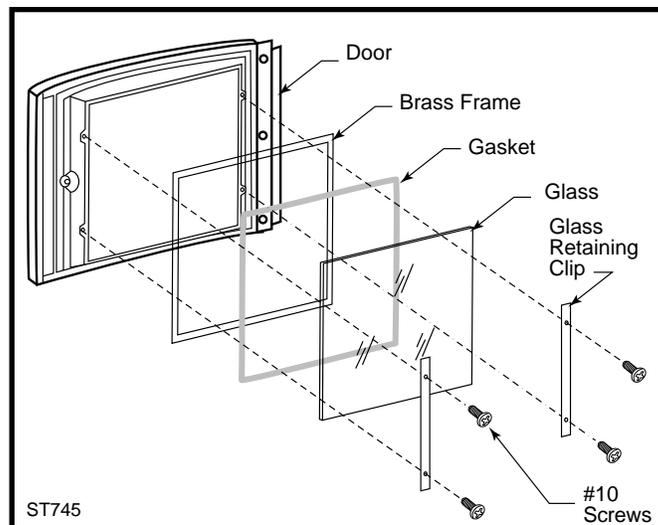


Fig. 31 In order of assembly, the front door glass components include a brass frame, gasket, glass, two clips and four screws.

To install the new glass:

1. Place a new piece of 3/16" gasket around the perimeter of the brass frame for the glass to rest on, as far to the outside as possible.
2. Place the new piece of glass on the gasket.
3. Position the glass retainer clips, and fasten in place with the #10 screws previously removed. Tighten the screws alternately.

Damper Adjustment

Check the damper to confirm that it is locking tightly whenever the top is removed for combustor inspection. If the damper needs adjustment, use a 7/16" socket wrench with a socket extension and follow this procedure:

1. Open the damper.
2. If necessary for better access, carefully remove the refractory cover.
3. Loosen the adjusting bolt's lock nut.
4. Loosen the anchor bolt's lock nut (it is located on the back side of the griddle and is accessible inside the stove through the front door).
5. Loosen the anchor bolt a turn or two.
6. Test the damper mechanism. If further adjustment is necessary, continue to tighten the adjusting bolt until the damper closes snugly.
7. When final adjustment has been made, tighten the adjusting bolt lock nut.
8. Carefully replace the refractory cover if it was removed.
9. Replace the top.
10. Alternately tighten the two bolts that secure it.

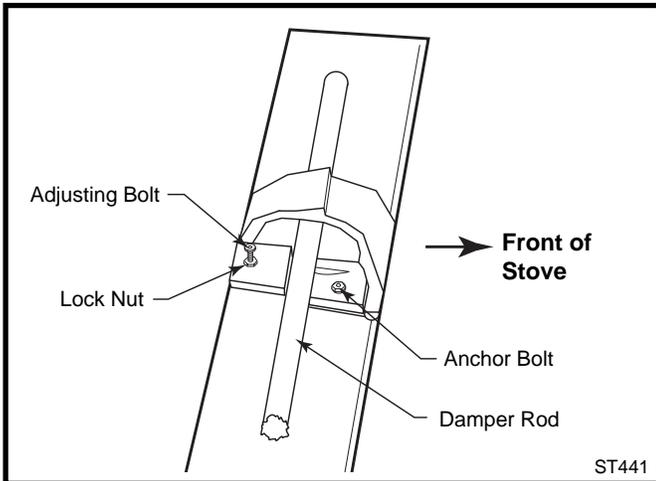


Fig. 32 Damper adjustment.

Care of the Catalytic Combustor

This wood heater contains a catalytic combustor, which needs regular inspection and periodic replacement for proper operation. Reminder: It is against the law in the United States to operate this wood heater in a manner inconsistent with operating instructions in this manual, or if the catalytic element is deactivated or removed.

Under normal operating conditions, the catalytic combustor should remain active for two to six years (depending on the amount of wood burned). However, it is important to monitor the combustor periodically to ensure that it is functioning properly, as well as to determine when it needs to be replaced. A non-functioning combustor will result in a loss of heating efficiency, and an increase in creosote and emissions.

The combustor should be visually inspected "in place" for fly ash accumulation and physical damage three times per year. Actual removal of the combustor is not recommended unless a more detailed inspection is warranted because of diminished performance as outlined below.

The refractory package that housed the catalytic combustor should be inspected annually for a buildup of fly ash and cleaned if necessary. This may be done during examination of the catalytic combustor.

When to Suspect a Combustor Problem

There are two ways to evaluate the performance of your stove's combustor. The first is to monitor the temperatures recorded on the probe thermometer. A properly functioning combustor should operate regularly in the range of 800-1200°F (430-650°C). Combustor temperatures consistently less than 800°F (430°C) are a sign that examination of the combustor is advisable.

The second performance test is to observe the amount of smoke leaving the chimney - both when the combustor has achieved "light-off" and when it has not. Follow this simple two-step procedure:

- With a fire in the stove and damper closed to activate the combustor, go outside and observe the smoke leaving the chimney.
- Then, open the stove damper and once again observe the smoke leaving the chimney.

Significantly more smoke should be observed after the second step when the stove damper is open and exhaust is not routed through the combustor. Be careful not to confuse smoke with steam from wet wood, however!

If either of these tests indicates a problem, consider other possible factors as well.

Assess your present operating conditions. In spring or fall, draft is weaker than it is in colder winter weather, and a related change in stove performance may result. Small hot fires are a good solution to sluggish performance under these conditions.

Burning "green" (insufficiently seasoned) wood will result in poorer performance than when burning properly seasoned fuel. You may have to run your stove hotter (more air) to achieve good performance if you are burning green or wet wood. Also, any changes in operating routine should be considered at this time as a possible reason for changed performance.

Once you have ruled out any other possible causes for a decline in performance, you may proceed with an inspection of the catalyst.

Remove and Inspect the Combustor

Before you begin, observe the basic safety precautions for working with dusty materials: always wear safety glasses, a dust mask and gloves.

- Remove the stove top plate. It is held in place by two bolts. One bolt is accessible when you open the front door and look upward toward the underside of the top plate. The other bolt is most easily reached through the side loading door. Remove the two bolts.
- Lift the top plate off the stove. It is heavy, and you may choose to have a helper assist you.
- The combustor is located beneath the removable refractory package, directly below the stove top near the center of the stove.

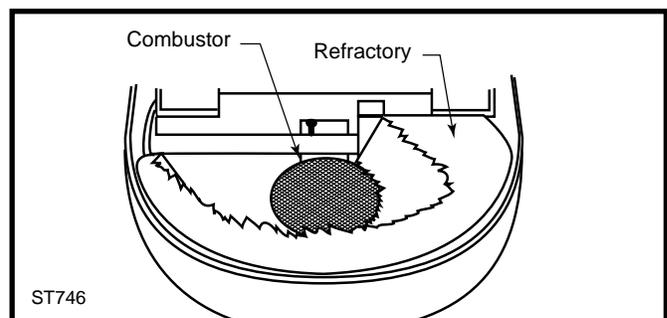


Fig. 33 A cutaway view of the combustor and its refractory cover.

- Carefully remove the refractory package. It is extremely delicate and should be handled as little as possible.
- For a visual inspection for blockage that can be performed without removing the combustor, have an assistant shine a bright flashlight beam up through the combustor from inside the stove's firebox.
- If combustor removal is necessary for cleaning or closer inspection, lift it gently out of its chamber. Check the combustor and the bottom of the refractory chamber for a buildup of fly ash, and remove any ash by gently blowing air through the combustor. Do not brush the surface, as this could damage the element.
- Inspect the combustor, referring to the information in the "Catalytic Combustor Appendix" on Page 27 for information on what to look for. Although small hairline cracks will not affect performance, the combustor should be essentially intact. If the combustor is broken in pieces or has sections missing, it should be replaced. Call your local Dutchwest dealer for a replacement combustor, item #CB56. Consult the warranty section at the back of this manual for further information on catalytic combustor replacement.
- If the combustor is in good condition and clean, reinstall it. Be sure first to carefully wrap a new Interam® gasket (an extra was provided with your stove) around its perimeter before replacement. Insert the gasketed combustor back into position, and replace the refractory package.
- Before replacing the stove top, check the damper. If the gasket is intact, but the damper is not locking tightly, adjustment should be made. Directions for adjusting the damper are on Page 23. Also check the gasket that seals the top plate.
- Gasket should be replaced only if damaged or missing. The top plate and gasket both are sealed with a 3/8" gasket. The procedure for removing the old gasket and installing the new is the same as that described for door gaskets on Page 22.
- Replace the stove top, and secure it by tightening the two top plate bolts from inside the firebox. Be sure that the top plate seats properly before tightening, and tighten the bolts gradually and alternately.

Watch for Better Results

Finish up by cleaning the chimney and chimney connector. Then, operate the stove in a typical manner for two weeks and observe the stove's performance, taking particular note of the performance tests described above.

If a problem persists, contact your local dealer for further advice about your particular situation.

A Clean Chimney System is Safer and Works Better

Learn to Recognize Creosote and Soot

When you first begin using the stove, check daily for creosote - a substance that can look like either thick tar or black, crisp flakes. Experience will show how often you need to clean to be safe. The frequency may even vary during the year. In the colder months when the hottest fires producing the least creosote are burned, you may need to clean less frequently. During the warmer months when creosote is more likely to result from cooler-burning fires, more frequent cleaning may be necessary.

At the very least, inspect the chimney and chimney connector twice monthly. Clean if necessary. Let the stove cool to determine if a buildup of creosote or soot has occurred. If a significant layer of creosote has accumulated (1/8" [3mm]), or if soot has built up, either should be removed to reduce the risk of a chimney fire. Failure to keep the chimney and connector system clean can result in a serious chimney fire.

The conditions for a chimney fire develop like this: 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 flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire within the flue system which can damage the chimney and overheat adjacent combustible material.

To reduce the amount of creosote that may form, remember to provide adequate air for combustion and to strive for small, intense fires rather than large, smoldering ones.

You can never be too safe. Contact your local fire authority for information on what to do in the event of a chimney fire, and have a clearly defined plan on how to handle one.

Inspect Chimney Connector and Chimney Twice Monthly and Clean as Required

Let the stove cool completely before you inspect the chimney. Then, using a strong light, sight up through the flue collar into the chimney flue. If it is not possible to inspect the flue system in this fashion, the stove must be disconnected to provide adequate viewing.

Clean the chimney using a specially designed chimney cleaning brush, the same size and shape as the flue liner, attached to flexible fiberglass rods designed for this purpose. Run the brush up and down the liner so that any deposits fall to the bottom of the chimney where they can be removed through the clean-out door.

The chimney connector should be cleaned by disconnecting the sections, taking them outside, and removing any deposits with a stiff wire brush. Reinstall the connector sections after cleaning, being sure to secure the individual sections with three sheet metal screws per section.

If you are unable to inspect and/or clean the chimney system yourself, contact your local dealer or hire a qualified chimney sweep in your area to do the job.

Maintenance Schedule

The Stove:

DAILY:

- Ashes should be removed before they reach the top of the ash pan. Check accumulation at least once a day.
- Keep the area around the stove clear of any combustible materials such as wood, furniture or clothing.

TWO MONTHS:

- Inspect the catalytic combustor. Clean if necessary.
- Check door handle to be sure it is sealing properly. Gaskets become compressed after a period of time and the tight seal may be lost. Check that the door latch is firmly attached to the door shaft. If necessary, seat the latch firmly on the shaft and retighten the set screw on the door latch.
- Check leg bolts and heat shield screws; tighten if necessary.

Annual Spring Cleaning

- Check gaskets for wear, and replace if necessary.
- Remove ashes from the ash pan and replace with a moisture absorbing material (such as kitty litter) to keep the interior of the stove dry.
- Inspect and clean the refractory package.
- Clean the dust from the inner sides of bottom, rear or pipe heat shields if your stove is equipped with them. Clean surfaces are better heat reflectors than dirty surfaces.
- Touch up the black paint.

The Chimney Connector

TWO WEEKS:

- Inspect the chimney connector and chimney. Clean if necessary.

TWO MONTHS:

- Inspect the chimney and chimney connector. Pay particular attention to the horizontal runs of chimney connector, and the elbows. Clean the system if necessary.

Yearly Spring Cleaning

- Disassemble the chimney connector and take it outdoors for inspection and cleaning. Replace weak sections of connector.
- Inspect the chimney for signs of deterioration. Repairs to a masonry chimney should be made by a professional mason. Replace damaged sections of prefabricated chimney. Your local dealer or a chimney sweep can help determine when replacement is necessary.
- Thoroughly clean the chimney.

Catalytic Combustor

In any chemical reaction, including the combustion process, there are certain conditions which must be met before the reaction can take place. For example, a reaction may require a certain temperature, or a certain concentration of the reactants (the combustion gases and oxygen), or a certain amount of time. Catalysts, though not changed themselves during the reaction, have the ability to act at a molecular level to change these requirements. In the secondary combustion chamber of the Seneca, the catalyst reduces the temperature at which secondary combustion can start from the 1000 - 1200°F. (540 - 650° C) range to the 500 - 600°F. (260 - 315° C) range, increasing efficiency, and reducing creosote and emissions.

Though it is advantageous, the catalytic reaction does have some limitations of its own. Primary among these is that the reactants (the gases) come into close physical contact with the catalyst itself.

To ensure the necessary contact, the catalytic element in your Seneca is composed of a ceramic base in the shape of a honeycomb. On each of the honeycomb's many surfaces a coating of the catalyst (usually a noble metal such as platinum or palladium) is applied. The large surface area exposed in this configuration ensures that the combustion gases have the greatest opportunity to come in contact with the catalyst.

Loss of catalytic activity will be apparent in several ways. First you may notice an increase in fuel consumption. Second, there will be a visible increase in the rate at which creosote builds up in your chimney connector system. You may also notice a heavy discharge of smoke from the chimney. There are a number of catalytic problems which can cause loss of activity:

Blockage

While the honeycomb pattern ensures good contact, it also increases the resistance to flow of the combustion gases, and, because of the many surfaces, provides more places for creosote and fly ash to deposit. It is important to follow the operating instructions in order to minimize these deposits, and to periodically inspect your catalyst for signs of blockage.

Masking and Poisoning

While the catalyst itself does not enter into the combustion process, it is possible for certain elements, such as lead and sulfur, to attach to the active sites on the surface of the honeycomb. Though the catalyst is still there, it is covered, or masked, by the contaminant, and cannot function. To avoid this situation, it is important not to burn anything in your Seneca that is a source of these contaminants. Particularly avoid painted or treated wood, coal, household trash, colored papers, metal foils, or plastics. Chemical chimney cleaners may also contain harmful elements. The safest approach is to burn only untreated, natural wood.

Flame Impingement

The catalytic element is not designed for exposure to direct flame. If you continually overfire your Seneca, the chemistry of the catalyst coating may be altered, inhibiting the combustion process.

Thermal degradation of the ceramic base may also occur, causing the element to disintegrate. Stay within the recommended guidelines of the Operation section.

Mechanical Damage

If the element is mishandled, damage may occur. Always treat the element carefully. Remember the catalyst is made of a ceramic material; treat it as you would fine china. Hairline cracks will not affect the performance of the catalyst, as long as the steel sleeve holds the element in the proper position.

Peeling

Peeling of the surface coat may occur if the catalytic element is frequently subjected to excessive temperatures. Follow the operating instructions carefully to avoid this type of damage.

Every Dutchwest product is equipped with either a Corning "Long-Life"[®] or a Technical Glass Products "Honeycomb"[®]. The products are equivalent. If for any reason you must ship your catalytic element, remember its fragile nature. Place the element in a plastic bag, and package it with a generous amount of shock absorbing material.

Draft Management

Your stove is only one part of a system that includes the chimney, the operator, the fuel, and the home. The other parts of the system will affect how well the stove works. When there is a good match between all the parts, the system works well.

Wood stove operation depends on natural (unforced) draft. Natural draft occurs when exhaust gas is hotter (and therefore lighter) than the outdoor air at the top of the chimney. The greater the temperature difference, the stronger the draft. As the hot exhaust gas rises out of the chimney, it generates suction that draws air into the stove for combustion. A slow, lazy fire when the stove's air inlets are fully open indicates a weak draft. A brisk fire, supported only by air entering the stove through the air inlets, indicates a good draft. The inlets are passive; they regulate how much air *can* enter the stove, but they don't force air into it.

The efficiency of a modern woodburning appliance, (in which the amount of air available for combustion is regulated), depends on the chimney to keep exhaust gases warm all the way outdoors. The characteristics of your chimney - whether it is steel or masonry, interior or exterior, matched or mismatched to the stove outlet, - determine how quickly it will warm up and how well it will sustain the optimum temperatures necessary to maintain strong draft and efficient combustion. Here follows a description of various flue system characteristics and the related effects on stove performance.

Masonry Chimney

Although masonry is the traditional material used for chimney construction, it can have distinct performance disadvantages when used to vent a controlled-combustion woodstove. Masonry forms an effective 'heat sink' - that is, it absorbs and holds heat for long periods of time. The large mass, however, may take a long time to become hot enough to sustain a strong draft. The larger the chimney (in total mass), the longer it will take to warm up. Cold masonry will actually cool exhaust gases enough to diminish draft strength. This problem is worse if the chimney is located outside the home or if the chimney flue has a cross-sectional volume much larger than the stove outlet.

Steel Chimney

Most factory-made 'Class A' steel chimneys have a layer of insulation around the inner flue. This insulation keeps the smoke warm and protects the surrounding structure from the high flue temperatures. Because the insulation is less dense than masonry, the inner steel liner warms up more quickly than a masonry chimney; this makes the steel chimney support a good draft more quickly than masonry does. Steel chimneys are not as attractive as masonry, but they are very durable and generally outperform masonry.

Indoor/ Outdoor Location

Because the chimney's function is to keep the smoke warm, it is best to locate it inside the house. This location uses the house as insulation for the flue and allows some radiant heat release from the flue into the home. Since an interior chimney doesn't continuously lose its heat to the outdoors, less heat from the stove is required to get it warm and keep it warm.

Flue Sizing

The flue size for a controlled-combustion appliance should be based on the cross-sectional volume of the stove flue outlet. In this case, more is definitely not better. Hot gases lose heat through expansion; if a stove with a six-inch flue collar (28 square inch area) is vented into a 10" x 10" flue, the gases will expand to over three times their original volume. As gases cool with expansion, draft strength decreases. If an oversized flue is also outside the house, the heat it absorbs will be conducted to the outdoor air and the flue will remain relatively cool.

It is common for a masonry flue to be oversized for the stove. Such a chimney can take quite a while to warm up and the stove performance will likely be disappointing. The best solution to an oversize flue problem is the installation of an insulated steel chimney liner of the same diameter as the appliance flue outlet. The liner keeps the exhaust gas warm and the result is a stronger draft. An uninsulated liner is a second choice - although the liner will keep the exhaust restricted to its original volume, the air around the liner will require time and heat energy to warm up.

Check your local codes. You may be required to install a flue liner in any oversize or masonry flue.

Pipe & Chimney Layout

Every bend in the flue will act as a brake on the exhaust as it flows from the firebox to the chimney cap. The ideal pipe and chimney layout is straight up from the stove through a completely straight chimney. Use this layout if at all possible as it will promote optimum stove performance and simplify maintenance.

If the stovepipe must elbow to enter a chimney, locate the elbow about midway between the stove top and the chimney thimble. This configuration lets the smoke speed up before it must turn, keeps some pipe in the room for heat transfer, and allows long-term flexibility for installing a different appliance without relocating the thimble.

There should be no more than eight feet of single-wall stove pipe between the stove and a chimney. Longer runs can cool the smoke enough to cause draft and creosote problems.

Single Venting

Your stove requires a dedicated flue. Do not connect the stove to a flue used by any other appliance. Chimney draft is a natural form of energy and follows the path of least resistance. If the stove is vented to a flue that also serves an open fireplace or another appliance, the draft will also pull air in through those avenues. The additional air flow will lower flue temperatures, reduce draft strength and promote creosote development; overall stove performance will suffer. The effect is similar to that of a vacuum cleaner with a hole in the hose. In some extreme instances, the other appliance can even impose a negative draft and result in a dangerous draft reversal.

Fuel

Even the best stove installation will not perform well with poor fuel. If available, always use hardwood that has been air-dried ("seasoned") 12-18 months. Softwood burns more rapidly than hardwood and has a high pitch content conducive to creosote production. Decayed wood of any type has little heat value and should not be used.

All unseasoned ('green') wood has a high moisture content. Much of its heat value will be used to evaporate moisture before the wood can burn. This significantly reduces not only the amount of energy available to warm your home, but also the intensity of the fire and temperature of the exhaust gas. Incomplete combustion and cool flue temperatures promote creosote formation and weak draft.

You can judge the moisture content of wood by its appearance and weight or use a commercially available moisture meter for an exact measurement. Unseasoned wood will be a third heavier than dry wood. Also, look for cracks ("checking") in the ends of the log that result from contraction as the wood dries. The longer and wider the cracks are, the dryer the wood is.

Purchase your fuel from a reputable dealer.

Creosote

Creosote is a by-product of low-temperature stove operation, weak draft, or both. It is a tar that results when unburned gases condense inside the flue system at temperatures below 290° F. Creosote is volatile and can generate a chimney fire. All of the installation characteristics that adversely affect chimney draft also promote creosote condensation. Consequently, you can minimize creosote accumulation with an effective chimney design and the use of operational techniques that encourage good draft and complete combustion.

Inspect your chimney frequently and clean it whenever accumulation exceeds 1/4".

Backpuffing

Backpuffing is a condition that results when the draft is too weak to pull flue gases out of the chimney system as

fast as the fire generates them. Volatile gases build up within the firebox until reaching a density and temperature at which they ignite. With this ignition, you may hear a muffled popping sound and see a bit of smoke forced out of the stove.

This condition is most likely to occur in the Spring or Fall when moderate outdoor temperatures and low intensity fires produce weak draft. If your stove back-puffs, open up the damper to let the smoke rise to the flue more quickly. Also, open the air inlets to induce a livelier fire and speed airflow through the stove. Avoid large loads of firewood at one time. You should always see lively, dancing flames in the firebox; a lazy, smoky fire is inefficient and will promote draft problems.

Draft Testing

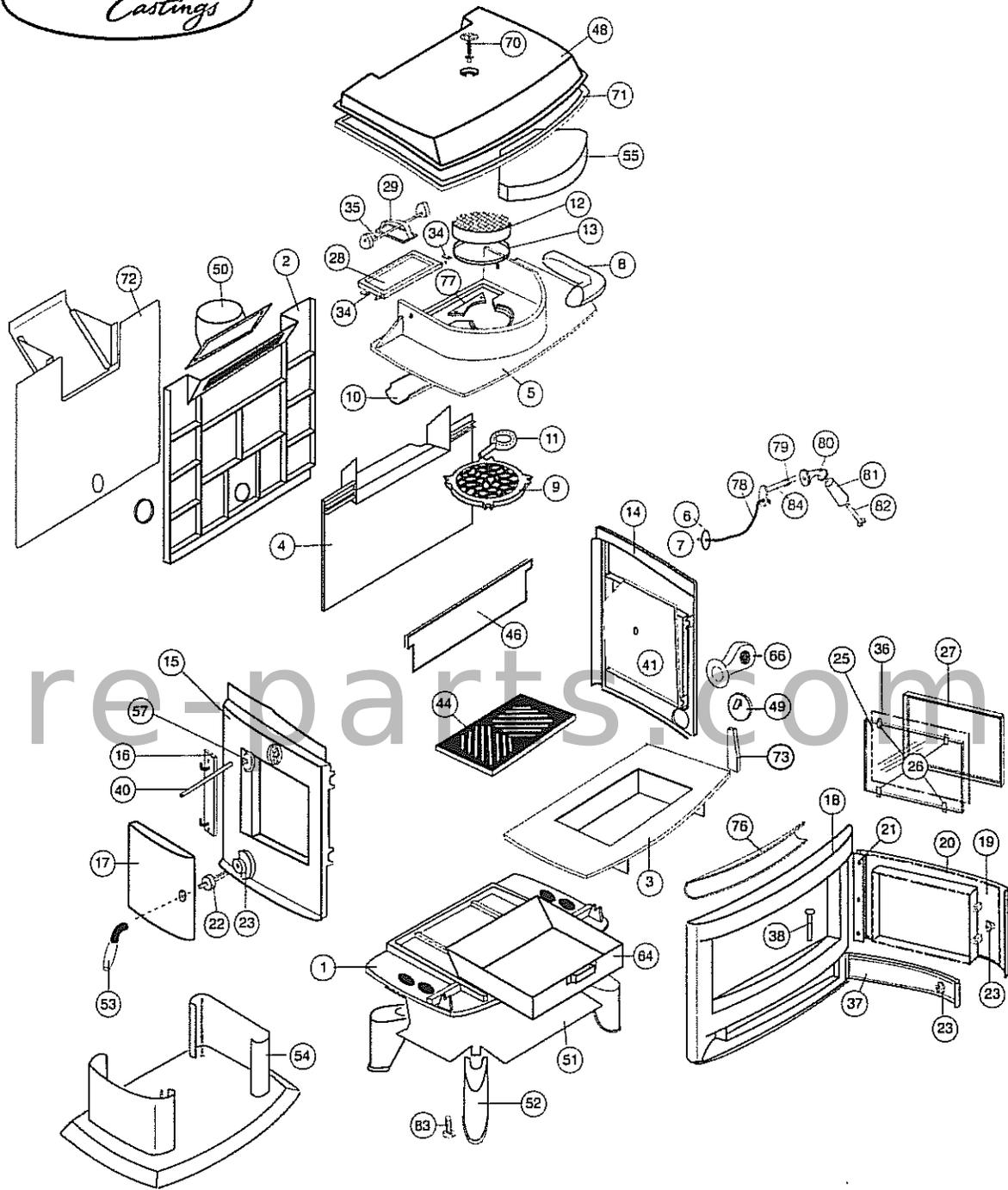
An easy way to determine whether your chimney draft is strong enough is to close the stove damper, wait a few minutes to let the airflow stabilize, and then test whether you can vary the strength of the fire by swinging the air control open and closed. Results here are not instant; you may need to wait a few minutes for a change in the air control setting to have an effect on the fire. If there is no change, the draft is not yet strong enough to let you close the damper. You will need to open it for a while longer and manage the fire with the air inlet until the draft strengthens. Keep a record of your operating habits and relate them to their effects on the stove's function. You'll be rewarded with safe and efficient performance.

Negative Pressure

Good draft also depends on a sufficient supply of air to the stove. The chimney can't pull in more air than is available to it. Sluggish draft can be caused by a house that is tight enough to prevent the ready flow of air to the stove, or by competition between the stove and other appliances that vent indoor air to the outside; i.e., exhaust fans for range hoods, clothes dryers, bathroom fans, etc. If the chimney draws well when all such equipment is turned off (or sealed, in the case of fireplaces and/or other stoves), you need to be attentive in timing the use of the other appliances. If you need to crack a nearby window or door to enable the chimney to pull well, you should install an outside-air intake to bring combustion air into the room.

Conclusion

Woodburning is more an art than a science. Art includes technique; and since installations, homes, and fuel vary, the stove operator must also vary technique, (mostly timing), to achieve satisfying results. Over time, you will become familiar with the features of your particular installation; you will be able to identify cause and effect in a variety of seasonal circumstances, and adapt your operating habits to changing conditions.



Seneca 2170

Item/Model Number	Part Number	Item/Model Number	Part Number
1. BOTTOM	1306035	12. CATALYTIC COMBUSTOR	000CB56
2. BACK	1306045	13. INTERAM GASKET	0000837
3. INNER BOTTOM	1306036	14. RIGHT SIDE	1306037
4. INNER BACK	1306038	15. LEFT SIDE	1306043
5. INNER TOP*	1306056	16. SIDE DOOR HINGE PLATE	700G808
6. AIR VALVE PLATE	1606055	17. SIDE DOOR	1306044
7. BRASS BALL	1402470	18. FRONT PANEL	1306046
8. AIR TUBE	1306041	FRONT WITH DOORS	0005829
9. BAFFLE	7000953	19. FRONT DOOR	1306047
10. INNER TOP CHANNEL CAP	1306042	20. 3/8" LOW DENSITY FIBERGLASS GASKET	1203589
11. STAINLESS STEEL AIR DISTRIBUTOR	7000952	21. FRONT DOOR HINGE PLATE	1606057

Seneca 2170 cont.

Item/Model Number	Part Number
22. DOOR LATCH SHAFT UNTHREADED	700G809
23. DOOR LATCH ASSEMBLY C/W SHAFT	0000836
25. GLASS PANEL 13.47" x 7.96"	1606058
26. GLASS CLIP	1601396
27. BRASS TRIM FOR GLASS	1406060
28. BYPASS GATE	7000954
29. BYPASS ADJUSTER/LIFTER	7000950
34. BYPASS GATE TAB ('DAMPER TAB')	1601488
35. BYPASS CRANK	7000951
36. 3/16" FIBERGLASS GASKET	1203556
37. ASHDOOR	1306048
38. ASHDOOR HINGE PIN	1206061
40. BYPASS GATE OPERATING ROD	7000964
41. RIGHT INNER SIDE WALL	1306051
44. FLAT GRATE	1306050
46. GRATE BACK	1306039
48. TOP	1306053
49. FAN PLATE	1406063
50. FLUE COLLAR (6" DIAMETER)	7000969
51. BOTTOM HEAT SHIELD (OPTIONAL)	NA
52. 4-3/4" LEG	1306054
53. HANDLE ASSEMBLY	000A902
54. PEDESTAL (OPTIONAL) ('CLASSIC')	0002270
55. REFRATORY INSULATOR	1602515
57. BRASS DIAL	0000843
64. ASHPAN	7000G69
66. BLOWER (OPTIONAL)	0009973
70. PROBE THERMOMETER	0000948
71. BRASS TRIM (OPTIONAL)	0006063
72. REAR HEAT SHIELD (OPTIONAL)	NA
73. ANDIRON	1306052
76. AIR MANIFOLD	1306049
77. INNER TOP WEB*	7001110
78. PRIMARY AIR ROD	1606056
79. FRICTION SPRING	1201846
80. PRIMARY AIR VALVE HANDLE STUB	5004263
81. PRIMARY AIR VALVE HANDLE (WOOD)	1600660
82. #8-32 X 2" SLOTTED HEAD SCREW	1201243
83. LEG LEVELER BOLT	1201745
84. PRIMARY AIR ARM	1606060
5/16-18 X 5/16 SOCKET SET SCREW	1200563
1/4-20 X 1 HEX HD CAP SCREW	1201376
1/4 NRW FLAT WASHER	1202475
1/4-20 PLAIN NUT	1203210
FRONT DOOR CLIP	1600553
BRASS HANDLE (BRASS PART ONLY)	NA
HANDLE EXTENSION	0000842
MANUAL	2006063
HANDLE SPRING	70000G3
ALLEN WRENCH 5/32"	1205147
ALLEN WRENCH 1/8"	1205116
PROBE THERMOMETER	0000948
SCREEN	NA-0000134

*Use the following prefixes for Enamel Parts:

131 - Red	132 - Sand	133 - Blue	134 - Midnight
ASH DOOR			*6048
BACK			*6045
FRONT			*6046
FRONT DOOR			*6047
LEFT SIDE			*6043
LEG (1)			*6054
RIGHT SIDE			*6037
SIDE DOOR			*6044
TOP			*6053
FLUE COLLAR RED			7010969
FLUE COLLAR SAND			7020969
FLUE COLLAR BLUE			7030969
FLUE COLLAR MIDNIGHT			7040969

Hardware

10-24 X 1/2 HEX HD CAP SCREW (BOTTOM HEAT SHIELD)	1201322
1/4-20 X 3/4 HEX HD CAP SCREW (INNER BACK TO RIGHT SIDE, BAFFLE, INNER BACK TO LEFT SIDE, AIR MANIFOLD)	1201374
1/4 FLAT WASHER (INNER BACK TO RIGHT SIDE, BACK TO INNER BACK, BAFFLE INNER BACK TO LEFT SIDE, FRONT, AIR MANIFOLD, LEGS)	1202470
1/4" FLAT WASHER (AIR VALVE, AIR ROD ACTUATOR)	1202473
1/-20 X 1 1/2 HEX HD CAP SCREW (INNER SIDE PLATE TO RIGHT SIDE, CHANNEL CAP TO INNER TOP)	1201386
5/16-18 X 5/16 SOCKET SET SCREW (DOOR LATCH)	1200563
1/4-20 X 5/8 HEX HD CAP SCREW (SIDE DOOR HINGE, FRONT DOOR HINGE)	1201372
1/4-20 X 1 HEX HD CAP SCREW (BYPASS ADJUSTER)	1201376
1/4 NRW FLAT WASHER (BYPASS ADJUSTER)	1202475
1/4 - 20 PLAIN NUT (BYPASS ADJUSTER, FRONT)	1203210
1/4-20 X 1/2 HEX HD CAP SCREW (BYPASS TAB)	1201338
1/4-20 X 1 FUL THD CRS STUD (FRONT)	1204214
HINGE PIN ASHDOOR- 5"	1206061
1/4-20 X 1 1/4 HEX HD CAP SCREW (BACK TO INNER BACK)	1201378
5/16 X-18 X 3 3/4 HEX HEAD CAP SCREW (TOP)	1201483
5/16 FLAT WASHER (TOP)	1202479
1/4-20 X 1 PHILLIPS RD HD SCREW (FLUE COLLAR)	1200907
1/4-20 SQUARE NUT (FLUE COLLAR)	1203329
10-24 X 1/4 PHILLIPS PAN HD SCREW (GLASS CLIPS)	1200980
10-24 X 1/2 PHILLIPS TRUSS HD SCREW (REAR HEAT SHIELD)	1200998

Seneca 2170 cont.

Item/Model Number	Part Number	Item/Model Number	Part Number
1/4-20 X 1/4 SOCKET SET SCREW <i>(THERMOSTAT HANDLE STUB)</i>	1200417	Accessories	
8-32 X 2 SLOTTED RD HD SCREW <i>(THERMOSTAT HANDLE KNOB)</i>	1201243	#6061 Rear Heat Shield	
1/4-20 X 1 HEX HD LEVELLER BOLT <i>(LEGS)</i>	1201745	OUTSIDE AIR COVER	7001081
1/4-20 X 1 HEX HD CAP SCREW <i>(LEG BOLTS)</i>	1201376	FLUE COLLAR HEAT SHIELD	1406030
#10 X 1/2 PHILLIPS PAN HD SMS <i>(STOVEPIPE TO FLUE COLLAR)</i>	1202058	#10 X 1/2 PHILLIPS PAN HD SMS (9 USED)	1202058
Gaskets		INSTRUCTIONS	2006068
3/8 LOW DENSITY FIBERGLASS GASKET <i>(2.83' INNER TOP DAMPER OPENING, 7' FRONT DOOR, 4.16' TOP, 3' SIDE DOOR, 84' BACK VALVE OPENING, 3' INNER SIDE PLATE)</i>	1203589	#6062 Bottom Heat Shield	
6" INTERAM GASKET <i>(1-CATALYST)</i>	0000837	1.25" SPACER (4 NEEDED)	1601755
3/16" FIBERGLASS <i>(2.5' GLASS)</i>	1203556	INSTRUCTIONS	2006067

* Included in #000-0007 Inner top kit.

Note: 'Left' and 'right' mean as you face the stove.

The Vermont Castings, Majestic Products Company reserves the right to make changes in design, materials, specifications, prices and discontinue colors and products at any time, without notice.

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Warranty

Limited Three Year Warranty

Vermont Castings, Majestic Products warrants that this Seneca Stove will be free of defects in material and workmanship for a period of three years from the date you receive it, except that the catalyst, thermostats, handles, glass door panel, cement and gasketing shall be warranted as described below.

Vermont Castings, Majestic Products will repair or replace, at its option, any part found to be defective upon inspection by a Vermont Castings, Majestic Products Authorized Dealer. The customer must return the defective part or the stove, with shipping prepaid, to the Authorized Dealer or pay for any Authorized Dealer in-home travel fees or service charges for in-home repair work. It is the dealer's option whether the repair work will be done in the customer's home or in the dealer's shop. If, upon inspection, the damage is found to be the fault of the manufacturer, repairs will be authorized at no charge to the customer for parts and/or labor.

Any Seneca or part thereof that is repaired or replaced during the limited warranty period will be warranted for a period not to exceed the remaining term of the original limited warranty or six (6) months, whichever is longer.

Limited One Year Warranty

The following parts of the Seneca are warranted to be free of defects in material and workmanship for a period of one year from the date you receive it. These parts are the thermostats, handles, glass door panels, cement, and gasketing. Any of these items found to be defective will be repaired or replaced at no charge, upon the return of said part to a Vermont Castings, Majestic Products authorized dealer with postage prepaid.

Any part repaired or replaced during the limited warranty period will be warranted under the terms of the limited warranty for a period not to exceed the remaining term of the original limited warranty or six (6) months, whichever is longer.

Limited Catalyst Warranty

The catalyst will be warranted for a six (6) year period as follows: If the original catalyst or a replacement catalyst proves defective or ceases to maintain 70% of its particulate emission reduction activity (as measured by an approved testing procedure) within 24 months from the date the Seneca is received, the catalyst will be replaced free. For stove purchases made after June 20, 1990, a third year (25-36 months) of no charge replacement will be made when combustor failure is due to thermal degradation of the substrate (crumbling of ceramic material).

From 25-72 months a prorated credit will be allowed against a replacement catalyst and the cost of labor necessary for replacement at the time of replacement.

The customer must pay for any in-home travel fees, service charges, or transportation costs for returning the Seneca to the Authorized Dealer.

Amount of Time Since Purchase	Credit Towards Replacement Costs
00 - 24 months	100%
25 - 36 months	50%
37 - 48 months	30%
49 - 60 months	20%
61 - 72 months	10%

Any replacement catalyst will be warranted under the terms of the catalyst warranty for the remaining term of the original warranty. The purchaser must provide the following information in order to receive a replacement catalyst under the terms of this limited warranty:

1. Name, address and telephone number.
2. Proof of original purchase date.
3. Date of failure of catalyst.
4. Any relevant information or circumstances regarding determination of failure.
5. In addition, the owner must return the failed catalyst.

Exclusions & Limitations

1. This warranty is transferable; however, proof of original purchase is required.
2. This warranty does not cover misuse of the Seneca as described in the Owner's Guide, nor does it cover a Seneca that has been modified unless authorized by a Vermont Castings, Majestic Products representative in writing.
3. The salt air environment of coastal areas, or a high-humidity environment, can be corrosive to the porcelain enamel finish. These conditions can cause rusting of the cast iron beneath the porcelain enamel finish, which will cause the porcelain enamel finish to flake off. This warranty does not cover damage to the Seneca caused by salt air or high humidity environment, or from burning salt saturated wood, chemically treated wood or any fuel not recommended in the Owner's Guide.
4. This warranty does not cover a Seneca repaired by someone other than a Vermont Castings, Majestic Products Authorized Dealer.
5. Damage to the unit while in transit is not covered by this warranty but is subject to claim against the common carrier. Contact the Authorized Dealer from whom you purchased your Seneca (Do not operate the stove as this may negate the ability to process the claim with the carrier.)
6. Claims are not valid where the installation does not conform to local building and fire codes or, in their absence, to the recommendations in the Owner's Guide.

How to Obtain Service

If a defect is noted within the warranty period, the customer should contact a Vermont Castings, Majestic Products Authorized Dealer with the following information:

1. Name, address, and telephone number of the purchaser.
2. Date of purchase.
3. Serial number from the label on the inside of the load door.
4. Nature of the defect or damage.
5. Any relevant information or circumstances, e.g., installation, mode of operation when defect was noted.

A warranty claim process will then begin. Vermont Castings, Majestic Products reserves the right to withhold final approval of a warranty claim pending a visual inspection of the defect by authorized representatives.