



LENNOX HEARTH PRODUCTS

# HOMEOWNER'S CARE AND OPERATION INSTRUCTIONS

## DIRECT VENT SPECTRA SERIES

VENTED GAS FIREPLACE HEATERS - DIRECT VENT MODELS  
P/N 875,020M REV. C 05/2006

### MODELS

LSS-35CN

LSS-40CN

LSS-35CP

LSS-40CP

RETAIN THESE INSTRUCTIONS  
FOR FUTURE REFERENCE

*A French manual is available upon request. Order Form Number 875,020CF.*

*Le manuel d'installation est disponible en français, simplement en faire la demande. Numéro de la pièce 875,020CF.*



### ⚠ WARNINGS

- **Hot! Do not touch!** The glass and surfaces of this appliance will be hot during operation and will retain heat for a while after shutting off the appliance. Severe burns may result.
- Carefully supervise children in the same room as appliance.



- If small children are present in the home, it is recommended that this appliance be fitted with a screen door or screen panel kit. See *Page 12* for ordering information.



OMNI-Test Laboratories, Inc.

OTL Report No. 116-F-02-05

**WARNING: IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.**

**FOR YOUR SAFETY:** Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

**FOR YOUR SAFETY:** What to do if you smell gas:

- **DO NOT** light any appliance.
- **DO NOT** touch any electrical switches.
- **DO NOT** use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone.

Follow your gas suppliers instructions.

- If your gas supplier cannot be reached, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**AVERTISSEMENT: ASSUREZ-VOUS DE BIEN SUIVRE LES INSTRUCTIONS DONNÉES DANS CETTE NOTICE POUR RÉDUIRE AU MINIMUM LE RISQUE D'INCENDIE OU POUR ÉVITER TOUT DOMMAGE MATÉRIEL, TOUTE BLESSURE OU LA MORT.**

**POUR VOTRE SÉCURITÉ:** Ne pas entreposer ni utiliser d'essence ni d'autre vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

**POUR VOTRE SÉCURITÉ:** Que faire si vous sentez une odeur de gaz:

- Ne pas tenter d'allumer d'appareil.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment où vous vous trouvez.
- Evacuez la pièce, le bâtiment ou la zone.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et service doit être exécuté par un qualifié installateur, agence de service ou le fournisseur de gaz.

## CONGRATULATIONS!

In selecting this LENNOX Signature Series Direct-Vent Gas Appliance you have chosen the finest and most dependable fireplace to be found anywhere. A beautiful, prestigious, alternative to a wood burning fireplace. Welcome to a Family of tens of thousands of satisfied LENNOX Fireplace Owners.

Please read and carefully follow all of the instructions found in this manual. Please pay special attention to the safety instructions provided in this manual. The Homeowner's Care and Operation Instructions included here will assure that you have many years of dependable and enjoyable service from your LENNOX product.

## TABLE OF CONTENTS

Introduction .....	page 2
General Information .....	page 2
Operation/Care of Your Appliance ....	page 3
RF Comfort Control Valve Operation	page 3
Transmitter Operation .....	page 4
Trouble shooting .....	page 5
Glass Cleaning .....	page 6
Maintenance .....	page 6
Maintenance Schedule .....	page 7
Front Glass Enclosure Panel, Removal and Installation .....	page 8
Burner Adjustments .....	page 8
Flame Appearance and Sooting .....	page 8
Adjustment .....	page 9
Vent Restrictor .....	page 9
Log Placement .....	page 10
Rockwool Placement .....	page 10
Pilot Inspection .....	page 10
Warranty .....	page 11
Replacement Parts .....	page 11
Product Reference Information .....	page 11
Accessory Components .....	page 11
Replacement Parts List .....	page 14

## INTRODUCTION

The Fireplace models covered in this manual are Direct-Vent sealed combustion vented gas fireplace heaters designed for residential application. Direct-Vent appliances operate with the combustion chamber completely isolated from the inside atmosphere. All air for combustion is brought in from the outside and exhaust gases are vented through the same direct vent, vent system.

These appliances feature a comfort control valve which allows remote control of temperature, fan and flame appearance. These appliances also use a spark ignitor (piezo) that allows the appliance's pilot gas to be lit without the use of matches. This system provides continued service in the event of a power outage.

The external electrical power (120v) is required to operate the provided circulating blower.

These appliances comply with National Safety Standards and are tested and listed by Omni-Test Laboratories (Report No. 116-F-02-5) to ANSI Z21.88-2002 (in Canada, CSA-2.33-2002), and CAN/CGA-2.17-M91 in both USA and Canada, as vented gas fireplace heaters.

The Installation must conform to local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, or the *Natural Gas and Propane Installation Code, CSA B149.1*. The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70*, or the *Canadian Electrical Code, CSA C22.1*.

**DO NOT ATTEMPT TO ALTER OR MODIFY THE CONSTRUCTION OF THE APPLIANCE OR ITS COMPONENTS. ANY MODIFICATION OR ALTERATION MAY VOID THE WARRANTY, CERTIFICATION AND LISTINGS OF THIS UNIT.**

**WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.**

## GENERAL INFORMATION

**Note:** Installation and repair should be performed by a qualified service person. The appliance should be inspected annually by a qualified professional service technician. More frequent inspections and cleanings may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that the control compartment, burners and circulating air passage ways of the appliance be kept clean.

*S'assurer que le brûleur et le compartiment des commandes sont propres. Voir les instructions d'installation et d'utilisation qui accompagnent l'appareil.*

Provide adequate clearances around air openings and adequate accessibility clearance for service and proper operation. Never obstruct the front openings of the appliance.

Due to high temperatures the appliance should be located out of traffic and away from furniture and draperies. Locate furniture and window coverings accordingly.

**WARNING: THESE FIREPLACES ARE VENTED HEATERS. DO NOT BURN WOOD OR OTHER MATERIAL IN THESE APPLIANCES.**

**These appliances are designed to operate on natural or propane gas only.**

Input of millivolt models is variable. These rates are shown in the following table:

Model	Fuel	Maximum Input (BTU/H)	Minimum Input (BTU/H)
LSS-35CN	Nat. Gas	33,000	23,500
LSS-35CP	LP Gas	31,000	23,500
LSS-40CN	Nat. Gas	41,500	28,400
LSS-40CP	LP Gas	39,000	30,700

The following table shows the units' orifice size for the elevations of 0-4500 feet (0-1370 meters).

Model	Fuel	Rear Burner	Front Burner
LSS-35CN	Nat. Gas	#44	#50
LSS-35CP	LP Gas	#55	#61
LSS-40CN	Nat. Gas	#42	#45
LSS-40CP	LP Gas	0.054"	#56

Maximum manifold pressure is 3.5 in. w.c. (0.87 kPa) for natural gas and 10 in. w.c. (2.49 kPa) for LP/Propane gas.

Do not use these appliances if any part has been under water. Immediately call a qualified, professional service technician to inspect the appliance and to replace any parts of the control system and any gas control which have been under water.

Ne pas se servir de cet appareil s'il a été plongé dans l'eau, complètement ou en partie. Appeler un technicien qualifié pour inspecter l'appareil et remplacer toute partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

Test gage connections are provided on the front of the millivolt gas control valve (identified OUT for the manifold side and IN for inlet pressure).

Minimum inlet gas pressure to these appliances is 5.0 inches water column (1.24 kPa) for natural gas and 11 inches water column (2.74 kPa) for propane for the purpose of input adjustment.

Maximum inlet gas supply pressure to these appliances is 10.5 inches water column (2.61 kPa) for natural gas and 13.0 inches water column (3.23 kPa) for propane.

The appliance must be isolated from the gas supply piping system (by closing its individual manual shut-off valve) during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.5 kPa).

The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of ½ psig (3.5 kPa).

**These appliances must not be connected to a chimney or flue serving a separate solid fuel burning appliance.**

**Any safety guard or screen removed for servicing the appliance must be replaced prior to operating the appliance.**

**WARNING: FAILURE TO COMPLY WITH THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED IN THIS DOCUMENT WILL RESULT IN AN IMPROPERLY INSTALLED AND OPERATING APPLIANCE, VOIDING ITS WARRANTY. ANY CHANGE TO THIS APPLIANCE AND/OR ITS OPERATING CONTROLS IS DANGEROUS. IMPROPER INSTALLATION OR USE OF THIS APPLIANCE CAN CAUSE SERIOUS INJURY OR DEATH FROM FIRE, BURNS, EXPLOSION OR CARBON MONOXIDE POISONING.**

**Carbon Monoxide Poisoning:** Early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, obtain fresh air immediately. Turn off the gas supply to the appliance and have it serviced by a qualified professional, as it may not be operating correctly.

**WARNING: CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURES. USE CAUTION AROUND THE APPLIANCE TO AVOID BURNS OR CLOTHING IGNITION. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.**

**WARNING: DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIALS ON OR NEAR THIS APPLIANCE.**

**AVERTISSEMENT: SURVEILLER LES ENFANTS. GARDER LES VÊTEMENTS, LES MEUBLES, L'ESSENCE OU AUTRES LIQUIDES À VAPEUR INFLAMMABLES LOIN DE L'APPAREIL.**

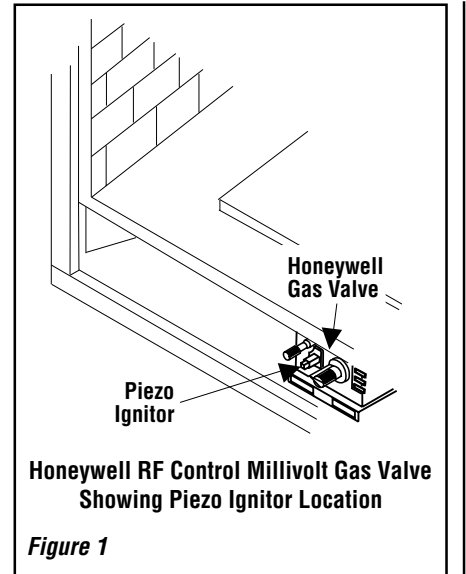
### OPERATION AND CARE OF YOUR APPLIANCE

For piezo ignitor location, refer to *Figure 1*.

The control compartment is located behind the bottom front face piece. For access:

In the Cast Iron Face accessory - simply lift up and pull directly out.

In the Rectangular or Arched Face accessory - Pivot the main face door (bottom) on the two hinge pins, and drop down to open.



### INSTRUCTIONS FOR RF COMFORT CONTROL VALVE

The Comfort Control Valve allows remote control of temperature, fan and flame appearance.

**Note:** The antenna should hang in free air and away from any grounded metal.

#### Operation (refer to *Figure 2*, page 4)

**Step 1.** If the manual switch is in the remote position, switch it to LOCAL.

**Step 2.** Turn the Pilotstat knob counterclockwise from OFF to the PILOT position, push the knob down and hold it in position. The pilot valve will open and allow gas to flow to the pilot burner.

**Step 3.** Actuate the plunger on the piezo (several times if necessary) until the pilot burner is lit. When the pilot burner is lit, the LED on the control will come on after approximately 40 seconds. The receiver/valve is fully powered.

**Step 4.** Release the knob. The shaft will move forward. The pilot burner should now stay burning. If the pilot burner goes out, repeat Steps 2 and 3.

**Step 5.** Turn the knob counterclockwise to the ON position. If the manual switch is in the LOCAL position, the main burner will turn on immediately.

**Step 6.** ON the initial use of a transmitter, a recognition operation is required between the receiver/valve and transmitter. Change the switch from LOCAL to REMOTE. Press the fan or flame button on the transmitter within 30 seconds. The LED will blink indicating the transmitter will now work with the receiver/valve. If the switch continues in the REMOTE position, the transmitter will now control the main valve, flame modulation level and fan control.

**Step 7.** If the manual switch is in the LOCAL position, the valve will be at the highest fixed pressure setting. The transmitter will control the fan only.

### Shut Off Procedure

If the manual switch is in the REMOTE position, the transmitter can shut off the main burner and fan. However, the control is still on and a command from the transmitter can turn on the main burner or fan.

To shut off the system, turn the pilotstat knob clockwise to the OFF position. This action closes the main gas and safety valves. The transmitter now cannot turn on the main burner or fan.

### TRANSMITTER OPERATION - (refer to Figure 3)

#### Off Mode

In the OFF mode, the fireplace flame and fan are off, the display will show OFF and displays the room temperature. If the receiver is in REMOTE mode, the fireplace will shut off.

#### On (Manual) Mode

In the ON mode, the room temperature, flame and fan levels will be shown. MANUAL will appear next to both the flame and fan icons.

When the control is in the ON mode, the flame and fan levels, and the delay timer are changed with the up and down buttons. To change the flame level, press the flame button followed by an arrow key. To change the fan level, press the fan key followed by an arrow key. Pushing the arrow key once will change the level by one unit.

#### Delay Timer Mode

The shut off delay timer has a maximum of 2 (two) hours and a minimum of 0 (zero) minutes. To change the timer level, press the time key followed by an arrow key. Pushing the key once will change the timer by 10 (ten) minutes.

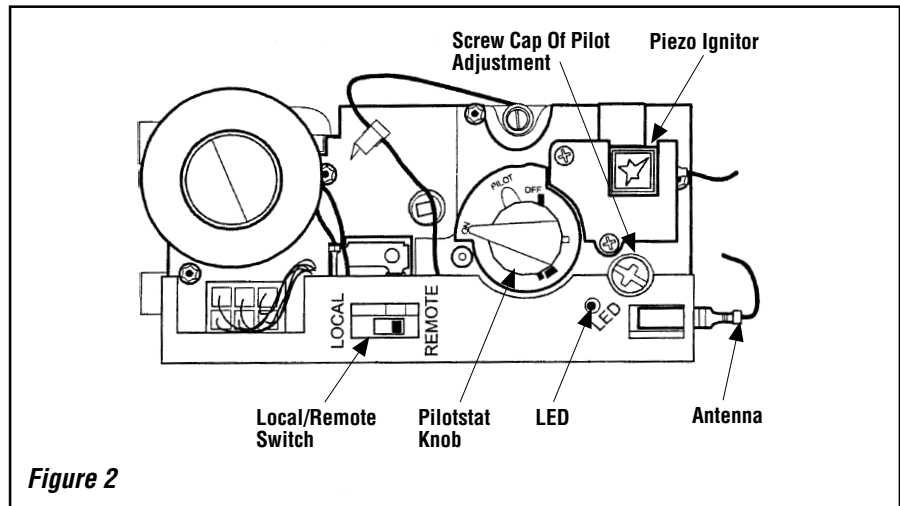


Figure 2

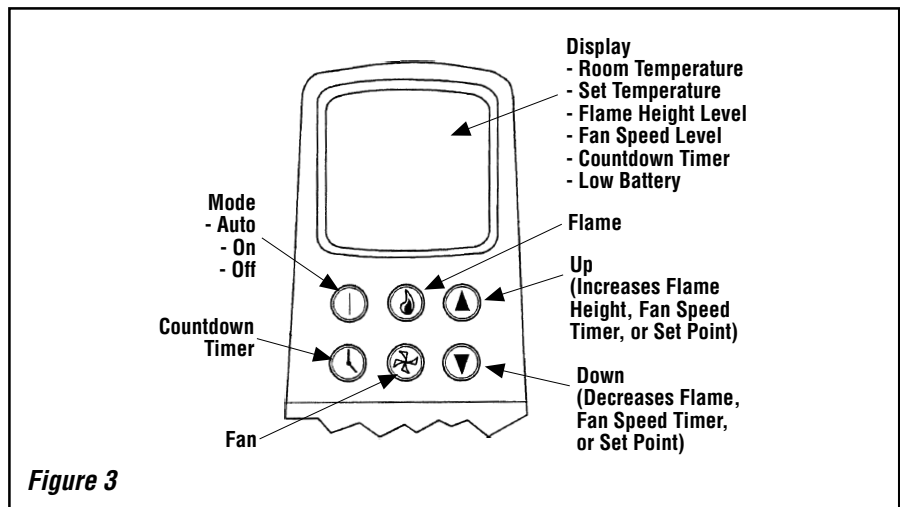


Figure 3

#### Auto Mode

In the AUTO mode, the room temperature, set temperature, flame and fan levels will be shown. AUTO will appear next to both the flame and fan icons.

When the control is in the AUTO mode, the main burner will turn on/off or modulate based on the heat needed to maintain the set temperature. The flame level will change automatically to optimize the heat output needed to maintain the set temperature. To change the set temperature, press the up or down key. Pushing a key once will change the temperature by 1 (one) degree. The setting temperature range from 40° F (4.5° C) to 90° F (32.0° C).

In the AUTO mode, the fan speed will increase with increasing flame height or decrease with decreasing flame height. "AUTO" is displayed next to the flame and fan icons.

#### Fan Override During Auto Mode

If a lower or higher fan speed is desired when operating in the AUTO mode, the fan speed can be overridden by pushing the fan button followed by the up or down key.

Pushing a key once will change the fan level by one unit. In this mode "AUTO" is displayed next to the flame icon and "MANUAL" is displayed next to the fan icon.

#### Change Between F/C Temperature Units

Push the up and down arrow keys simultaneously for at least 3 seconds to toggle between Fahrenheit and Celsius units.

#### Disable Thermostat Function

To disable the thermostat function in the AUTO mode, push the time and down key simultaneously for at least 3 seconds.

## To Change Batteries

1. Remove cover on the backside of the transmitter. Install 3 AAA batteries as shown inside the cover and reattach the cover.

2. Once steps 1 thru 3 in OPERATION are completed, receiver/valve and transmitter are now ready. Press any button on transmitter for recognition process to occur between the receiver/valve and transmitter.

3. Use functions as described in TRANSMITTER section.

## Troubleshooting

**Step 1.** Locate LED light on valve.

**Step 2.** LED will blink after every valid command received by the transmitter; this is not an error.

**Step 3.** Failure codes may occur anytime after pilot burner is lit.

**Step 4.** Sequence is failure code followed by light not blinking for 4 seconds.

**Step 5.** In the event of multiple failure codes, next failure code follows previous failure code by approximately 3 seconds

## If an Error Code 3 is observed while performing the testing, complete the following:

**Step 1.** Make sure the spade connectors are pushed all the way on. If the Error Code 3 is still showing, then go to the next step.

**Step 2.** Switch the front two thermopile leads with the back two. Be sure the lead is connected to the spade with the white dot next to it (see **Figure 4**). If the Error Code 3 is still showing, replace the thermopiles.

## If an Error Code 8 is observed while performing the testing, complete the following:

**Step 1.** Confirm that the valve is not in REMOTE mode.

- If the valve is producing Error Code 8 and in REMOTE mode, the valve is defective and should be replaced.

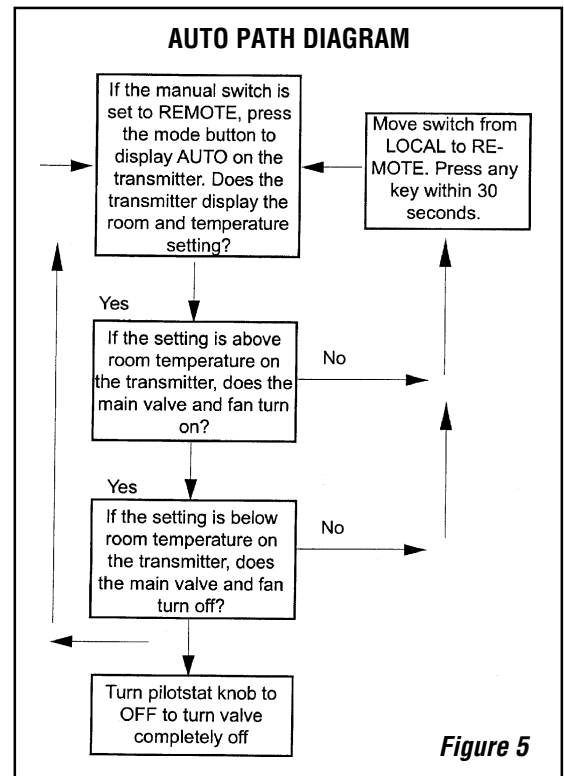
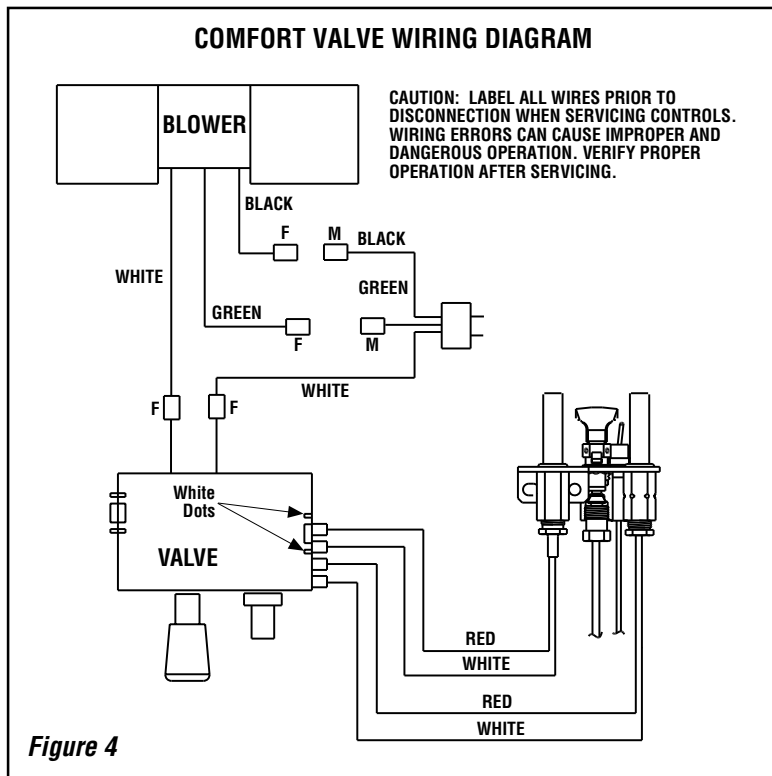
- If the valve is in LOCAL mode and producing Error Code 8, then go to the next step.

**Step 2.** Slide the Remote/Local switch to REMOTE and reprogram valve recognition (refer to in **Operation** section). The Error Code will clear itself after approximately 1 1/2 minutes and return to normal operation.

## LED Failure Code (Number Of Blinks) Service Action

LED Failure Code (Number Of Blinks)	Service Action
8	Replace valve
7	Confirm stepper motor connection exists
5	Confirm fan connection exists and works
4	Confirm gas type; jumper in place
3	Replace thermopiles
2	Turn fan ON
1	No action required

**NOTE:** Some keys are not active. This is normal.



## Comfort Valve System Control Sequence Of Operation With Transmitter

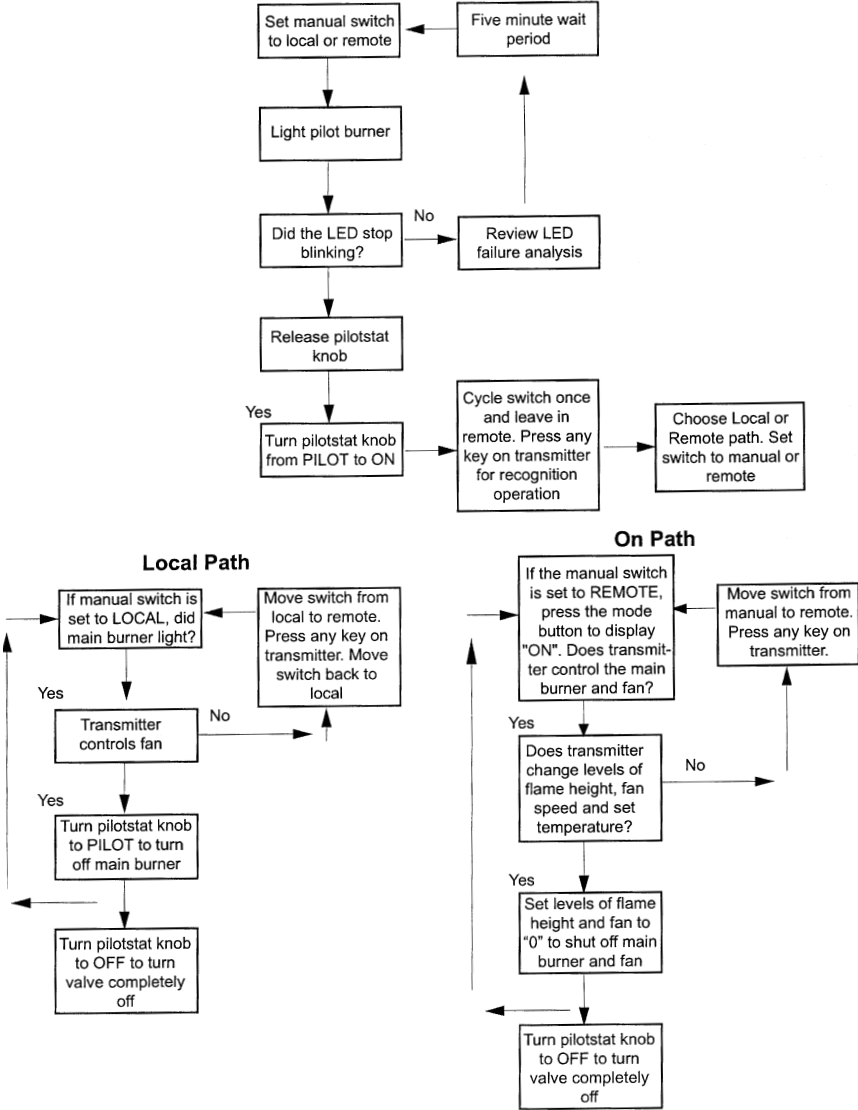


Figure 6

## Glass Cleaning

It will be necessary to clean the glass periodically. During start-up it is normal for condensation to form on the inside of the glass. This can cause lint, dust and other airborne particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended that the glass be cleaned two or three times with a non-ammonia household cleaner and warm water (a gas fireplace glass cleaner is recommended). After that the glass should be cleaned two or three times during each heating season, depending on the circumstances present.

**Note:** Clean glass after first two weeks of operation at least once. In some environments, it may be necessary to clean the glass several times during the first weeks of operation.

**WARNING: DO NOT USE ABRASIVE CLEANERS. NEVER CLEAN THE GLASS WHEN IT IS HOT.**

**CAUTION: DO NOT ATTEMPT TO TOUCH THE FRONT ENCLOSURE GLASS WITH YOUR HANDS WHILE THE FIREPLACE IS IN USE.**

## Maintenance

The appliance and venting system should be thoroughly inspected before initial use and at least annually by a qualified service technician. However, more frequent periodic inspections and cleanings should be performed by the homeowner. **Homeowner must contact a qualified service technician at once if any abnormal condition is observed.**

Refer to the maintenance schedule for maintenance tasks, procedures, periodicity and by whom they should be performed. Always verify proper operation of the appliance after servicing.

**IMPORTANT: TURN OFF GAS AND ANY ELECTRICAL POWER BEFORE SERVICING THE APPLIANCE.**

## Maintenance Schedule

### Annually (Before the onset of the Burning Season)

Maintenance Task	Accomplishing Person	Procedure
Inspecting/Cleaning Burner, Logs and Controls	Qualified Service Technician	Inspect valve and ensure it is properly operating. Check piping for leaks. Vacuum the control compartment, fireplace logs and burner area.
Check Flame Patterns and Flame Height	Qualified Service Technician	Refer to <b>Figure 9 (LSS-35), or Figure 10 (LSS-40) on page 10</b> and verify the flame pattern and height displayed by the appliance conforms to the picture. Flames must not impinge on the logs.
Inspecting/Cleaning Pilot and Burner	Qualified Service Technician	Refer to <b>Figure 11 on page 11</b> . Remove any surface build-up on pilot and burner assembly. Wipe the pilot nozzles, ignitor/flame rod and hood. Ensure the pilot flame engulfs the flame sensor as shown.
Checking Vent System	Qualified Service Technician	Inspect the vent system at the top and at the base (within the firebox) for signs of blockage or obstruction. Look for any signs of dislocation of the vent components. <b>Do not adjust the vent restrictor adjustment rod.</b>
Appliance Checkout	Qualified Service Technician	Perform the appropriate appliance checkout procedure detailed in this manual.
Replacing Rockwool Ember Materials	Homeowner/Qualified Services Technician	Remove old ember materials. Place new rockwool as described in this document.

### Periodically (After the Burning Season)

Maintenance Task	Accomplishing Person	Procedure
Check Flame Patterns and Flame Height	Homeowner	Refer to <b>Figure 9 (LSS-35), or Figure 10 (LSS-40) on page 10</b> and verify the flame pattern and height displayed by the appliance conforms to the picture. Flames must not impinge on the logs.
Checking Vent System	Homeowner	Inspect the vent system at the top and at the base (within the firebox) for signs of blockage or obstruction. Look for any signs of dislocation of the vent components.
Cleaning Front Glass Enclosure Panel	Homeowner	Clean as necessary following the directions provided in this manual. <b>DO NOT TOUCH OR ATTEMPT TO CLEAN GLASS WHILE HOT.</b>

## Front Glass Enclosure Panel, Removal and Installation.

**WARNING: NEVER OPERATE THE APPLIANCE WITHOUT THE GLASS ENCLOSURE PANEL IN PLACE AND SECURE. DO NOT OPERATE APPLIANCE WITH THE FRONT GLASS PANEL CRACKED, BROKEN OR MISSING. REPLACEMENT PANELS ARE AVAILABLE THROUGH YOUR LOCAL LENNOX DEALER AND MUST BE INSTALLED BY A LICENSED OR QUALIFIED SERVICE TECHNICIAN.**

These are direct-vent appliances. They are designed to operate only with the front glass enclosure panel properly installed. Generally, the glass enclosure panel should not be removed except to gain access to the components within the firebox, and the appliance may only be operated without the front glass enclosure panel in place for very brief periods of time during initial appliance check-out and adjustment.

**During this appliance checkout and adjustment period, a potential safety hazard exists - EXERCISE EXTREME CAUTION to prevent the occurrence of any burn injuries from the exposed flames or hot surfaces.** Also note, that while the front glass enclosure panel is removed, the flame appearance will appear to be smaller than normal.

**WARNING: HANDLE THE GLASS WITH EXTREME CARE! TEMPERED GLASS IS SUSCEPTIBLE TO DAMAGE (SCRATCHES, FOR EXAMPLE) - HANDLE GLASS DOOR (GLASS ENCLOSURE PANEL) GENTLY WHILE REINSTALLING IT.**

**WARNING: DO NOT ATTEMPT TO SUBSTITUTE THE MATERIALS USED ON THIS DOOR, OR REPLACE CRACKED OR BROKEN GLASS WITH ANY MATERIALS OTHER THAN THOSE PROVIDED BY THE APPLIANCE MANUFACTURER.**

**WARNING: DO NOT OPERATE APPLIANCE WITH THE GLASS FRONT REMOVED, CRACKED OR BROKEN. REPLACEMENT OF THE GLASS SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON.**

Refer to *Figure 7* and remove the front glass enclosure panel as follows:

1. Remove the cast iron, arched or rectangular face kit.

**CAUTION: DO NOT ATTEMPT TO REMOVE UNTIL THE FACEPLATE IS COOL.**

A) Cast Iron Face Kit:

1. Lift the top arched piece up and pull directly out.

2. Lift the bottom piece up and pull directly out.

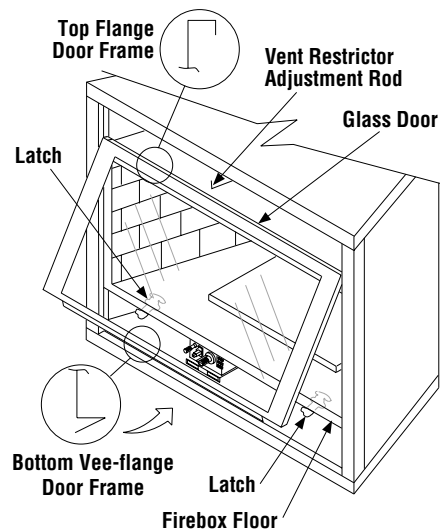
3. Lift the side pieces up and pull directly out.

B) Arched or Rectangular Face Kit:

1. Lift the face assembly up and pull directly out.

2. Locate the two (2) latches at the top of the control compartment and disengage them from the door frame's bottom Vee-flange, pulling down on their handles to open them.

3. Swing the bottom of the door out and raise it slightly to lift the top flange of the door frame away from the appliance.



*Figure 7*

To install the front glass enclosure panel, proceed as follows:

1. Retrieve the glass door frame. Visually inspect the gasket on the backside of the panel. The gasket surface must be clean, free of irregularities and seated firmly.

2. Position the door frame in front of the firebox opening and engage the top flange over the lip at the top of the firebox opening.

3. Swing the door down and back. Ensure the gasket seats evenly as the door draws shut. Engage the Vee-flange at the bottom of the door with the latches and close the latches to secure the door.

4. Hook the cast iron, arched or rectangular facade onto the face of the fireplace.

## Burner Adjustments

The following paragraphs address burner adjustment concerns and procedures.

## Flame Appearance and Sooting

Proper flame appearance is a matter of taste. Generally most people prefer the warm glow of a yellow to orange flame. Appliances operated with air shutter openings that are too large will exhibit flames that are blue and transparent. These weak, blue and transparent flames are termed anemic. If the air shutter opening is too small sooting may develop.

Sooting is indicated by black puffs developing at the tips of very long orange flames. Sooting results in black deposits forming on the logs, appliance inside surfaces and on exterior surfaces adjacent to the vent termination. Sooting is caused by incomplete combustion in the flames and a lack of combustion air entering the air shutter opening.

To achieve a warm yellow to orange flame with an orange body that does not soot, the shutter opening must be adjusted between these two extremes. No smoke or soot should be present. Reposition the logs if the flames impinge on any of them.

If the logs are properly positioned and sooting conditions exist, the air shutter opening on the main burner tube should be adjusted. Normally, the more offsets in the vent system, the greater the need for the air shutter to be opened further.

**WARNING: AIR SHUTTER ADJUSTMENT SHOULD ONLY BE PERFORMED BY A QUALIFIED PROFESSIONAL SERVICE TECHNICIAN.**

**ENSURE THAT THE FRONT GLASS PANEL IS IN PLACE AND SEALED DURING ADJUSTMENT.**



## Adjustment

**CAUTION: THE AIR SHUTTER ADJUSTMENT ROD (SEE FIGURE 8) AND NEARBY APPLIANCE SURFACES ARE HOT. EXERCISE CAUTION TO AVOID INJURY WHILE ADJUSTING FLAME APPEARANCE.**

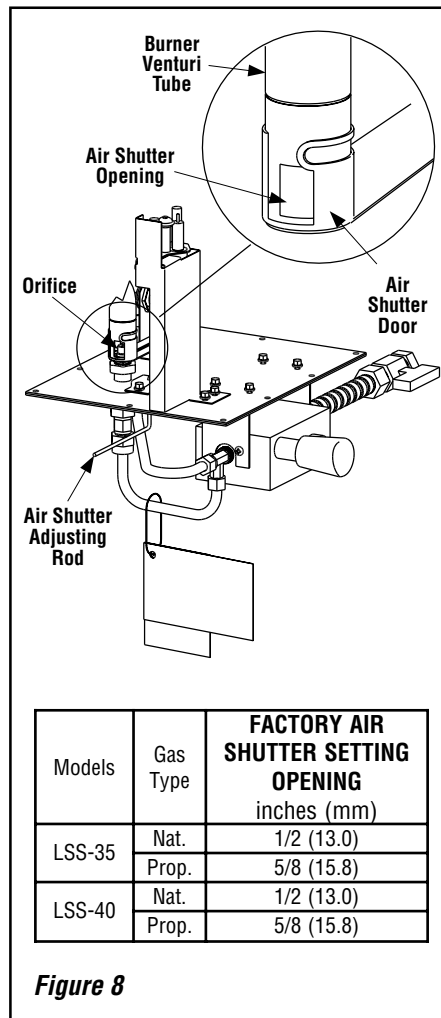
To adjust the flame, restate the air shutter adjustment rod toward the back or toward the front of the fireplace (rod located in the lower control area). Position the air shutter to the factory setting as shown in the Table of Figure 8. Allow the burner to operate for at least 15 minutes. Observe the flame continuously. If it appears weak or sooty as previously described, adjust the air shutter by pushing or pulling on the adjustment rod until the flame appearance is as desired.

The air shutter adjustment rod and associated adjustable air shutter is patented technology. Flame adjustments can be made quickly and accurately to taste without the need of disassembling the appliance and waiting for 30 minutes after each adjustment.

Propane models may exhibit a flame pattern that may candle or appear stringy. If this is problematic or persists as the appliance is continually operated, adjust the air shutter closed as described in the previous paragraphs.

Operate the appliance for a period of time as the effect diminishes, ensuring that the appliance does not develop sooty flames.

When satisfied that the appliance operates properly, proceed to finish the installation. Leave the control knob in "ON" position and turn the remote switch "OFF." Close the lower control compartment door.



**Figure 8**

## Vent Restrictor

The appliance has a built-in vent restrictor, refer to Figure 7, page 8 for location, to adjust the flow of exhaust gases. This ensures proper combustion for all vent configurations. Depending on the vent configuration, you may be required to adjust the restriction position. See below for guidelines.

**CAUTION: THE FIREPLACE NEEDS TO BE ON DURING THE ADJUSTMENT OF THE VENT RESTRICTOR. USE A GLOVE TO PROTECT YOUR HAND FROM BURNS.**

Venting Configuration	Adjustment Rod Position
1. Horizontal Venting with 6" vent section and one 90° elbow.	* Pointed toward the front.
2. Vertical venting.	* Pointed toward the left.
3. Combination of vertical and horizontal venting.	* Adjust accordingly for best result.

\* Adjustment to the air shutter may be required to get the desired flame appearance, (refer to Figure 8).

## Log Placement

**WARNING: LOGS GET VERY HOT AND WILL REMAIN HOT UP TO ONE HOUR AFTER GAS SUPPLY IS TURNED OFF. HANDLE ONLY WHEN LOGS ARE COOL. TURN OFF ALL ELECTRICITY TO THE APPLIANCE BEFORE YOU INSTALL GRATE AND LOGS.**

**WARNING: THE SIZE AND POSITION ON THE LOG SET WAS ENGINEERED TO GIVE YOUR APPLIANCE A SAFE, RELIABLE AND ATTRACTIVE FLAME PATTERN. ANY ATTEMPT TO USE A DIFFERENT LOG SET IN THE FIREPLACE WILL VOID THE WARRANTY AND WILL RESULT IN INCOMPLETE COMBUSTION, SOOTING, AND POOR FLAME QUALITY.**

**WARNING: THIS APPLIANCE IS NOT MEANT TO BURN WOOD. ANY ATTEMPT TO DO SO COULD CAUSE IRREPARABLE DAMAGE TO YOUR APPLIANCE AND PROVE HAZARDOUS TO YOUR SAFETY.**

Carefully position the ceramic fiber logs over the burner as shown in **Figure 9 (LSS-35)** or **Figure 10 (LSS-40)**. For more detailed placement instructions, refer to the **LOG PLACEMENT GUIDE** accompanying this document.

Proper log placement is critical to prevent sooting. Logs should be placed in the gaps between the flame peaks and should be positioned so that at no time they impinge the flames.

### Glowing Embers (Rockwool) Placement

Refer to the detailed glowing embers placement instructions provided in the **LOG PLACEMENT GUIDE** accompanying this document.

### Honeywell RF Control Millivolt Appliance Pilot Checkout

#### Pilot Inspection

To obtain proper operation, it is imperative that the pilot and burner's flame characteristics are steady, not lifting or floating (see **Figure 11**).

Typically, the top 3/8" of the thermopile should be engulfed in the pilot flame (**Figure 11**).

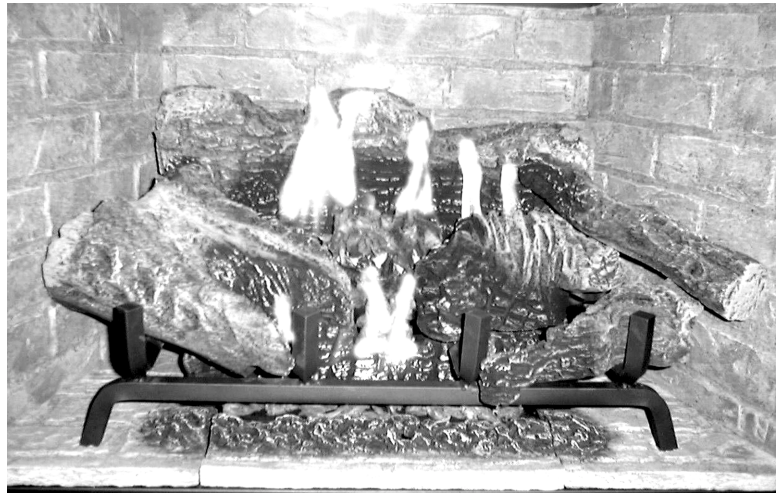


Figure 9

MODEL LSS-35

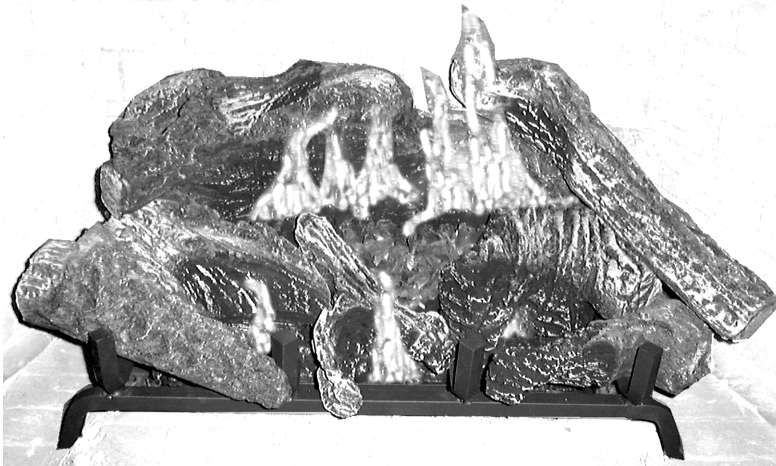


Figure 10

MODEL LSS-40

To adjust pilot burner; (by a qualified service technician)

1. Remove pilot adjustment cap.
2. Adjust pilot screw to provide properly sized flame.
3. Replace pilot adjustment cap.

The primary air shutter is set at the factory and should only be adjusted, if necessary, by a qualified service technician.

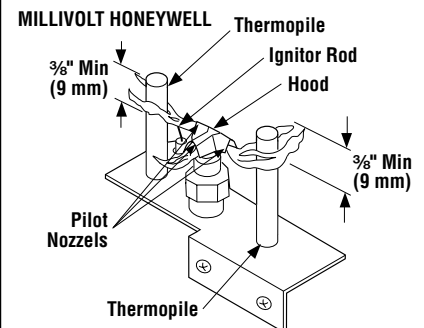


Figure 11

**WARRANTY**

Your gas appliance is covered by a limited twenty year warranty. You will find a copy of the warranty accompanying this manual. Please read the warranty to be familiar with its coverage.

Retain this manual. File it with your other documents for future reference.

**REPLACEMENT PARTS**

A complete parts list is found at the end of this manual. Use only parts supplied from the manufacturer.

Normally, all parts should be ordered through your Lennox distributor or dealer. Parts will be shipped at prevailing prices at time of order.

When ordering repair parts, always give the following information:

1. The model number of the appliance.
2. The serial number of the appliance.
3. The part number.
4. The description of the part.
5. The quantity required.
6. The installation date of the appliance.

If you encounter any problems or have any questions concerning the installation or application of this system, please contact your distributor, or Lennox directly:

**LHP**  
**1110 West Taft Avenue**  
**Orange, CA 92865**

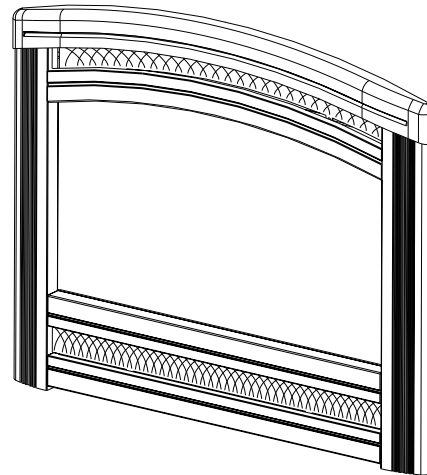
**PRODUCT REFERENCE INFORMATION**

We recommend that you record the following important information about your fireplace. Please contact your Lennox dealer for any questions or concerns. For the number of your nearest Lennox dealer, please call 800-731-8101

Your Fireplace's Model Number _____
Your Fireplace's Serial Number _____
The Date On Which Your Fireplace Was Installed _____
The Type of Gas Your Fireplace Uses _____
Your Dealer's Name _____

**ACCESSORY COMPONENTS**

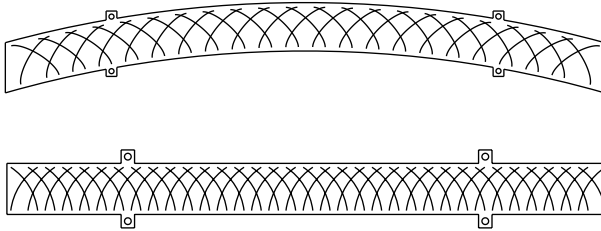
<b>Cast Iron Kits</b>		
<b>Model Series</b>	<b>Catalog No.</b>	<b>Model No.</b>
<b>LSS-35</b>	H0378	LSS-CA35
<b>LSS-40</b>	H0398	LSS-CA40



**Cast Iron Kits**

These cast iron face kits are designed to be used in conjunction with the grillwork kits. Together, when installed, these kits complete the front aspect of the Spectra LSS Series gas fireplaces. A detailed set of instructions (P/N 750,150M) is included with each kit.

**ACCESSORY COMPONENTS CONTINUED**



<b>Grillwork Kits (Top &amp; Bottom)</b>			
<b>Model Series</b>	<b>Finish</b>	<b>Catalog No.</b>	<b>Model No.</b>
<b>LSS-35</b>	Black	H0379	LSS-GB35
	Gold	H0380	LSS-GG35
	Nickel	H0381	LSS-GN35
<b>LSS-40</b>	Black	H0399	LSS-GB40
	Gold	H0400	LSS-GG40
	Nickel	H0404	LSS-GN40

**Grillwork Kits (Top & Bottom)**

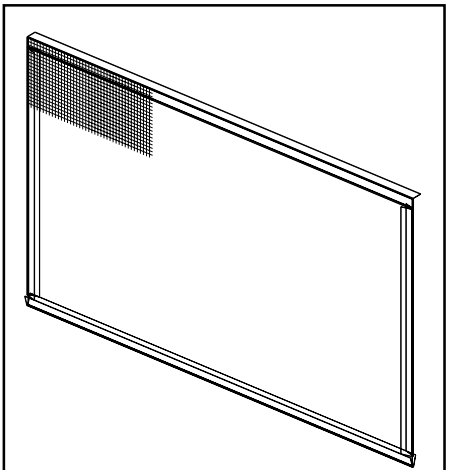
These grillwork kits are designed to be used in conjunction with the Cast Iron Face kits. Together, when installed, these complete the front aspect of the Spectra LSS Series gas fireplace. A detailed set of instructions (P/N 750,151M) is included with each kit.



**Touch-Up Paint (Black) Kit**    90L73    FTPK-B

**Touch-Up Paint Kit**

Repair of minor scratches and discoloration of the appliance's painted surfaces may be accomplished with the use of this touch-up paint kit.



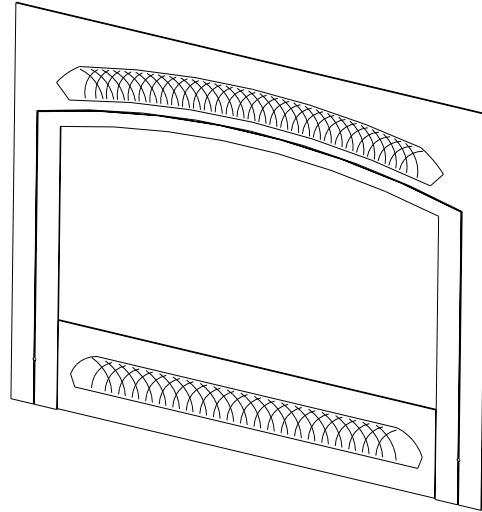
**35" Screen Panel Kit**    H5059    SPKLSS-35  
**40" Screen Panel Kit**    H5060    SPKLSS-40

**Spectra Screen Panel Kit**

These screen panels can be installed on the glass enclosure panel to prevent direct contact with the hot glass surface. The screen panel kits cannot be used in conjunction with any of the other door kits or door frame kits.

**ACCESSORY COMPONENTS CONTINUED**

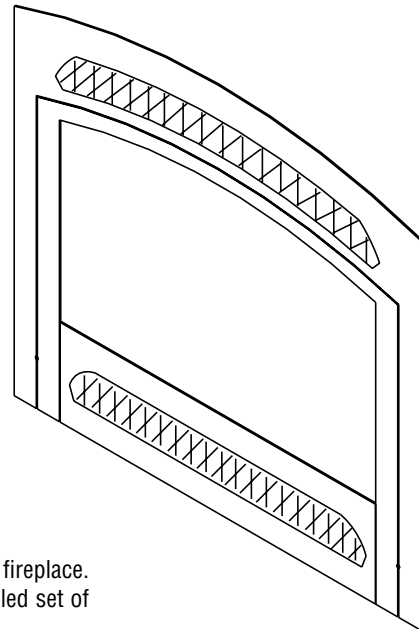
<b>Rectangular Face Kits</b>			
<b>Model Series</b>	<b>Finish</b>	<b>Catalog No.</b>	<b>Model No.</b>
<b>LSS-35</b>	Black	H0386	LSS-PT35B
	Gold	H0387	LSS-PT35G
	Brushed Nickel	H0389	LSS-PT35BN
<b>LSS-40</b>	Black	H0409	LSS-PT40B
	Gold	H0410	LSS-PT40G
	Brushed Nickel	H0413	LSS-PT40BN



**Rectangular Face Kits**

These rectangular face kits are designed to be used with the Spectra LSS series gas fireplace. When installed, these kits complete the front aspect of these fireplaces. A detailed set of instructions (P/N 750,152M) is included with each kit.

<b>Arched Face Kits</b>			
<b>Model Series</b>	<b>Finish</b>	<b>Catalog No.</b>	<b>Model No.</b>
<b>LSS-35</b>	Black	H0382	LSS-PA35B
	Gold	H0383	LSS-PA35G
	Brushed Nickel	H0385	LSS-PA35BN
<b>LSS-40</b>	Black	H0405	LSS-PA40B
	Gold	H0406	LSS-PA40G
	Brushed Nickel	H0408	LSS-PA40BN



**Arched Face Kits**

These arched face kits are designed to be used with the Spectra LSS series gas fireplace. When installed, these kits complete the front aspect of these fireplaces. A detailed set of instructions (P/N 750,152M) is included with each kit.

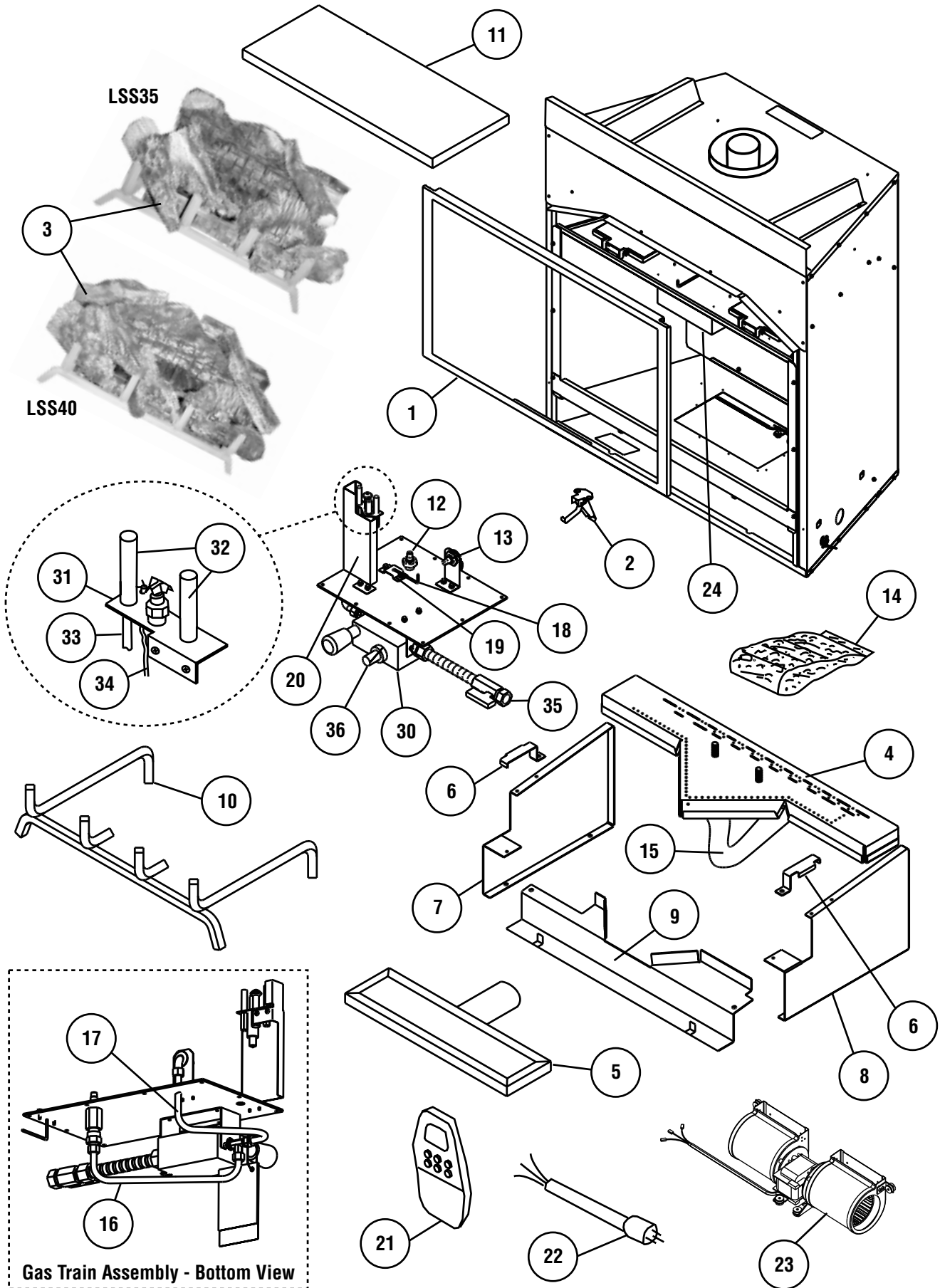
## REPLACEMENT PARTS LIST

No.	DESCRIPTION	LSS-35		LSS-40	
		Part No.	Qty.	Part No.	Qty.
1.	Enclosure, Glass Front (Complete)	LB-92534N	1	LB-92534P	1
2.	Latch	69L2101	2	69L2101	2
3.	Log Set (Complete)	35M6101	1	35M6201	1
4.	Burner Rear Assembly	35M7701	1	35M7801	1
5.	Burner Front	35M7501	1	35M7601	1
6.	Burner Bracket	LB-92813	2	LB-92813	2
7.	Burner Support - Left	LB-92811F	1	LB-92811G	1
8.	Burner Support - Right	LB-92811B	1	LB-92811C	1
9.	Front Baffle	LB-92812B	1	LB-92812C	1
10.	Grate Assembly	LB-92820B	1	LB-92820C	1
11.	Refractory Panels	41M86	1	41M87	1
12.	Orifice, Rear Main Burner - <b>Nat. Gas</b>	60J80	1	LB-69645	1
12.	Orifice, Rear Main Burner - <b>LP Gas</b>	19L52	1	88J59	1
13.	Orifice, Front Main Burner - <b>Nat. Gas</b>	35M9001	1	39L6601	1
13.	Orifice, Front Main Burner - <b>LP Gas</b>	35M9101	1	62L3701	1
14.	Bag of Rock Wool	88L53	1	88L53	1
15.	Venturi Tube - Rear Burner	35M3701	1	35M3801	1
16.	Gas Line - Rear Burner	LB-92834A	1	LB-92834B	1
17.	Gas Line - Front Burner	LB-92833A	1	LB-92833B	1
18.	Air Shutter Adjustment Linkage	LB-92544	1	LB-92544	1
19.	Linkage Mounting Bracket	LB-92546	1	LB-92546	1
20.	Pilot Bracket	LB-92770	1	LB-92770	1
21.	RF Remote Control	35M53	1	35M53	1
22.	Power Cord	35M8501	1	35M8501	1
23.	Blower	35M8401	1	35M8401	1
24.	Baffle, Top	LB-92822B	1	LB-92822C	1

## GAS CONTROLS

No.	DESCRIPTION	LSS-35		LSS-40	
		Part No.	Qty.	Part No.	Qty.
30.	Gas Valve - <b>Natural Gas</b>	35M5401	1	35M5401	1
30.	Gas Valve - <b>LP Gas</b>	35M8301	1	35M8301	1
31.	Pilot Assembly	35M5201	1	35M5201	1
32.	Pilot Generator	60J79	2	60J79	2
33.	Pilot Tube	67L6801	1	67L6801	1
34.	Electrode and Cable	67L8701	1	67L8701	1
35.	Flexible Connector	43K33	1	43K33	1
36.	Piezo Ignitor	24M8901	1	24M8901	1

**REPLACEMENT PARTS**



**Gas Train Assembly - Bottom View**

NOTE: DIAGRAMS & ILLUSTRATIONS NOT TO SCALE.

---

LENNOX reserves the right to make changes at any time, without notice, in design, materials, specifications, prices and also to discontinue colors, styles and products.  
Consult your local distributor for fireplace code information.



**HEARTH PRODUCTS**

1110 West Taft Avenue • Orange, CA 92865

Printed in U.S.A. © 2002 by LENNOX  
**P/N 875,020M REV. C 05/2006**