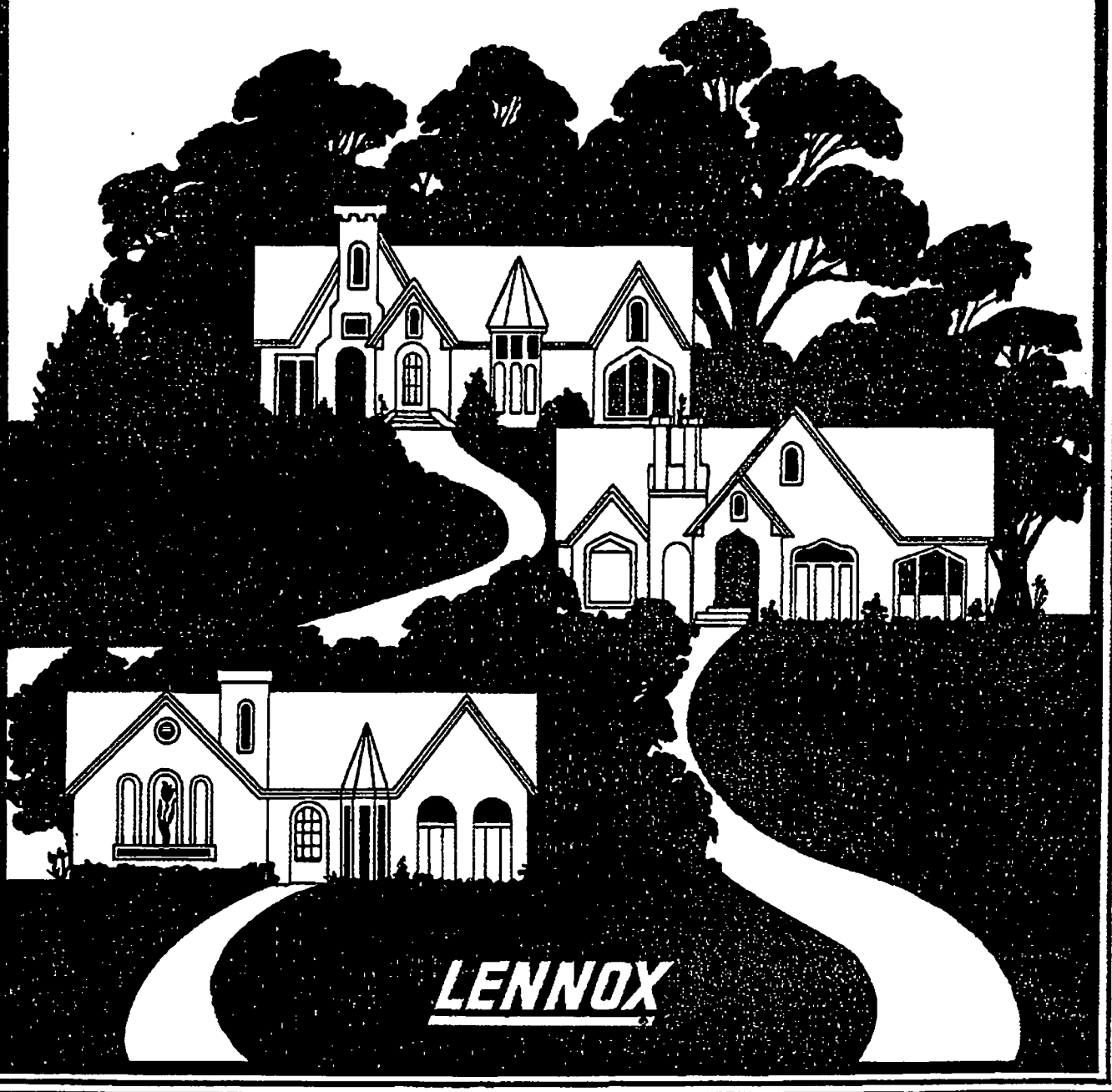
# Your Guide To Total Economical Comfort



# INTRODUCTION

This booklet has been designed to help you better understand how your new Lennox equipment operates. This booklet also provides helpful maintenance information that will enable you to keep your unit operating at top efficiency.

Your architect, builder, or independent contractor has selected the most suitable type of equipment for your application. Their selection has been based on the structure requirements according to local weather design data.

# THREE WAY RESPONSIBILITY

You have a right to expect your Lennox comfort system to serve you well. For this to happen there must be a three way responsibility.

1. Lennox must design and manufacture the equipment to rigid quality standards. This is a Lennox tradition and continuing policy.
2. The installer must plan and install the entire comfort system so that the equipment's full comfort potential is utilized. Lennox assists its dealers in meeting this goal by maintaining the industry's most advanced training programs.
3. The final user must operate and maintain the equipment properly — as would be expected with any sophisticated machinery. The purpose of this booklet is to inform you of simple procedures that will help assure peak performance and long life of your comfort equipment.

# TABLE OF CONTENTS

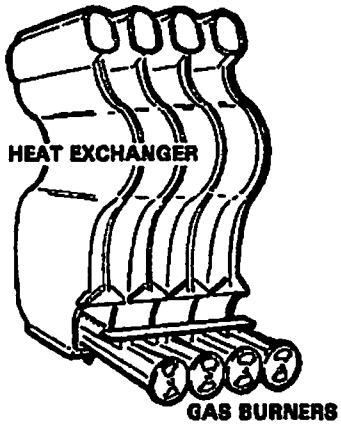
# HOW A HEATING SYSTEM OPERATES

Most modern residential furnaces use either natural or liquified petroleum (LP) gases, oil or electricity as their source of fuel.

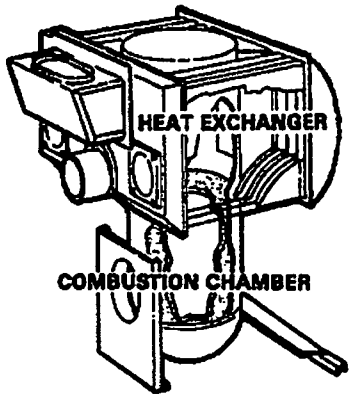
The heat section of a gas (either natural or LP) furnace consists of a steel heat exchanger and gas burners. The burners fit into a cavity at the bottom of the heat exchanger. Gas is fed into the burners and ignited by a pilot flame, or electric ignition device on a call for heat from the room thermostat. The burning gas warms the heat exchanger, and the furnace blower distributes the heat through the duct system to the living areas of the home.

The heat section of an oil furnace is made up of a combustion chamber and steel heat exchanger. When the room thermostat calls for heat, oil is pumped through a nozzle and ignited by a spark from a set of high voltage electrodes. A flame is produced in the combustion chamber, which heats the steel heat exchanger. The blower then moves this heated air through the duct system to the various distribution points.

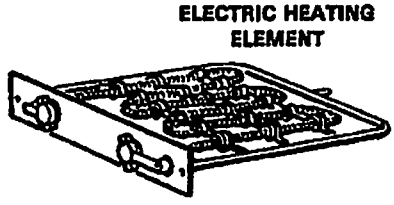
The heat section of an electric furnace consists of one or more electric heating elements. The element is much like that in an electric toaster, only larger. When the room thermostat demands heat, a resistance to the flow of electricity in the element produces heat. The heated air is moved by the furnace blower through the ducts and distributed to living spaces in the home.




GAS FURNACE
HEAT SECTION




OIL FURNACE
HEAT SECTION




ELECTRIC FURNACE
HEAT SECTION

# GAS SAFETY INSTRUCTIONS

## Your pilot light system has been designed for safe and reliable operation. Although safety mechanisms are built in, the potential for hazard exists. This information is intended to help you avoid these hazards.

**IF YOU SMELL GAS DON'T LIGHT IT.** Your gas control and pilot light system has a safety device whose purpose is to shut-off the gas supply to the appliance if the pilot light goes out. If you have trouble lighting the pilot or keeping it lit, it may mean that this safety device is warning you that there is a problem with your system. Inspection and repairs must be made by a trained gas service technician.

- If you smell gas do not attempt to light your appliance. Sniff for LP gas at floor level. LP gas is heavier than air and may temporarily exist at floor level.
- Do not use electrical switches or appliances, or use the phone if you smell gas. Turn off the gas to the appliance and call your gas supplier from another location. If you cannot reach your gas supplier, call the fire department.

**TAMPERING IS DANGEROUS.** The pilot safety system may also not work if you do not follow the lighting instructions carefully or if you tamper with the gas control that you use to light the pilot. Tampering with the gas control, particularly with tools, can damage the safety mechanism in the control and can allow gas to leak. This can result in a fire or explosion causing property damage, personal injury or death.

- Never tamper or use force or tools on the gas control system. If the gas control knob will not operate by hand, the control must be replaced. Repairs must be made only by a trained gas service technician.
- If your gas valve has gotten wet as the result of flooding or other wetting it must be replaced immediately by a trained gas service technician. Water can lead to damage of the internal safety mechanism in the gas control and can create a hazardous condition.

**CAUTION: If you have added exhaust fans, weatherproofed, or have made any major structural changes to your home, have your furnaces combustion air requirements re-evaluated by a professional Lennox serviceman. Furnaces need an adequate supply of combustion air for safe and reliable operation.**

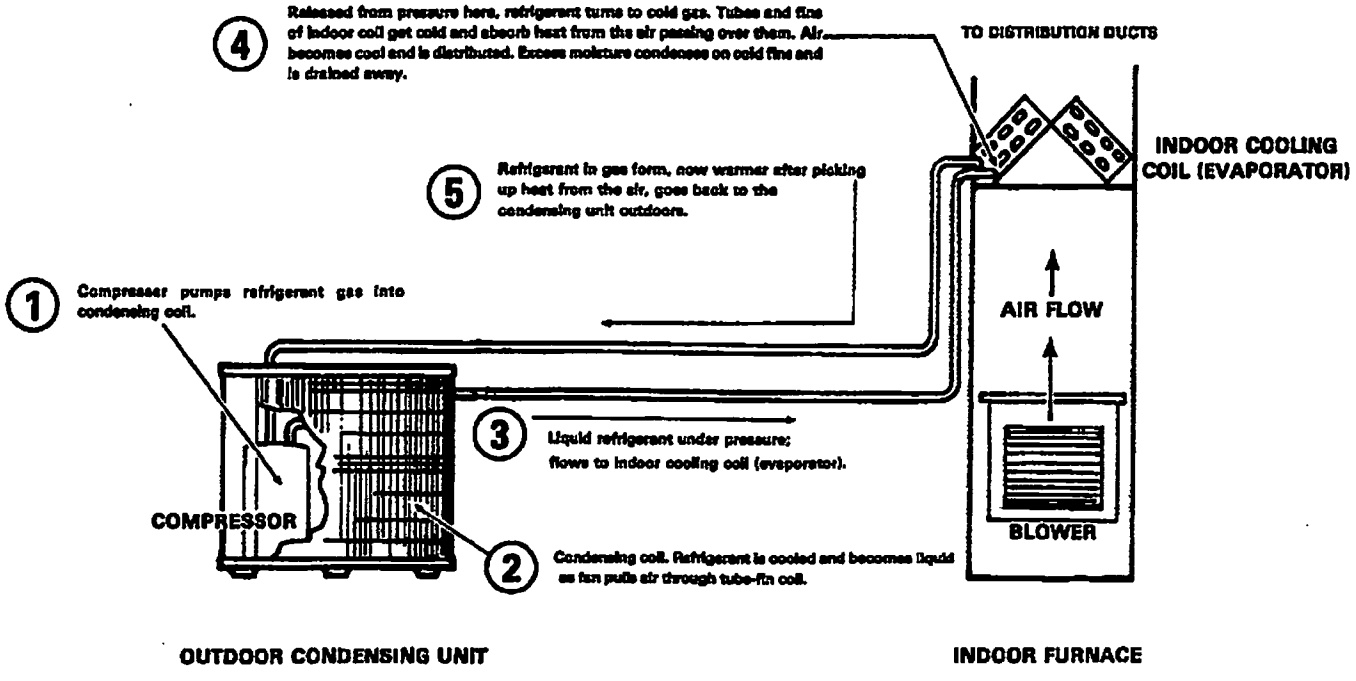
# HOW A COOLING SYSTEM OPERATES

Lennox residential cooling systems use a sealed refrigerant system to lower the structures air temperature to a comfortable level. A typical system consists of an indoor cooling coil (evaporator) connected by tubing to an outdoor (condensing) unit. The illustration below shows an indoor cooling coil mounted on a warm air furnace, using the filter and blower in the furnace. Other coils may be installed with their own blowers, all in a separate cabinet.

## COOLING CYCLE

1. Refrigerant gas is pumped by means of a compressor into the outdoor condensing coil.
2. The outdoor fan pulls air over the condensing coil, cooling the refrigerant and changing it to a liquid.
3. The liquid refrigerant, under pressure, flows from the outdoor coil to the indoor cooling coil.
4. Pressure is then released at the indoor coil, changing the refrigerant to a low temperature gas that cools the tubes and fins of the coil. As air, propelled by the blower passes over the coil, its temperature is reduced and condensation takes place. This additional benefit of removing water from the air is known as dehumidification. This water is disposed of through a condensate drain.
5. The refrigerant gas, now warmer after picking up heat from the air, is pulled back to the outdoor condensing unit by the compressor and the cycle starts over.

In some cases, the air conditioning system is not installed at the same time as the heating system. With a Lennox Total Comfort system, the cooling may be installed with the original installation, or at a later date.



# GENERAL OPERATION SUGGESTIONS

**The condition of the air you live in holds the key to home comfort. This is true every day of the year. Temperature control as you want it is just one key condition. Others are gentle air movement, freshness, cleanliness and proper humidity. Lennox equipment treats the air you live in to meet all these requirements. If your comfort system does not have all these features, see your Lennox dealer. He is an air systems specialist.**

## CONSTANT AIR CIRCULATION

During the heating season, the furnace's blower can be set to run continuously. This is the best way to enjoy a full-time comfort system, because if the blower stops, the movement of the air also stops. Constant, gentle air circulation keeps air from stagnating; keeps temperature even.

Obviously, the furnace is not "on" all the time. This means there are times when air is just at room temperature when it is recirculated. If you put your hand near an air outlet, this room temperature air will actually feel cool. This is due to moisture evaporating from your skin. Your Lennox installer has located air outlets so that air does not normally strike room occupants. All you feel is Total Comfort.

Constant air circulation is good for air conditioning, also. It provides around the clock air cleaning and freshening. (In very humid weather, intermittent blower operation for cooling sometimes provides best dehumidification.)

See the thermostat section in this manual for continuous blower operation information. Or your Lennox dealer can set the heating/cooling system for continuous blower operation. He will also recommend and set the blower speed for proper operation.

## FRESH AIR INTAKE

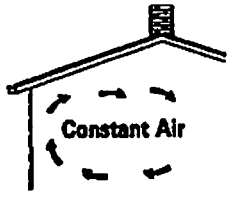
Total Comfort is incomplete without freshness in the air. Today's tight homes need controlled introduction of fresh air to replace air discharged by exhaust fans and flues. If not, untreated replacement air will try to enter around doors and windows. A fresh air intake brings outdoor air into the return air system, where it is cleaned, tempered and mixed with the rest of the air circulating through the house.

## ELECTRONIC AIR CLEANING

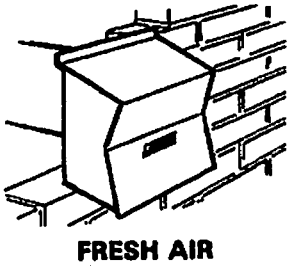
Standard hammock or slab air filters used in Lennox heating/cooling systems do an excellent job of trapping large dust particles. But these filters cannot hold microscopic particles such as smoke or pollen. A Lennox electronic air cleaner may be a part of your ducted system. They use an electric charge to trap minute particles and keep them from recirculating through your home. Refer to page 23 for operation and care.

## HUMIDITY CONTROL

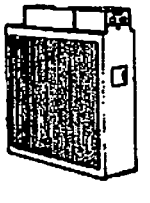
Air conditioning will reduce high summer humidity, but in winter, heated air becomes too dry for comfort. Lennox power humidifiers add a controlled amount of moisture to your home environment. An adjustable humidistat allows you to set desired percentages of humidity. Refer to page 21 for operation and care.



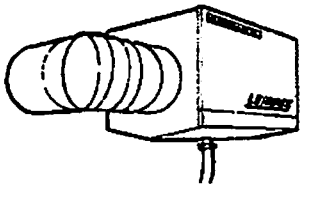

**CIRCULATION**



**FRESH AIR INTAKE**



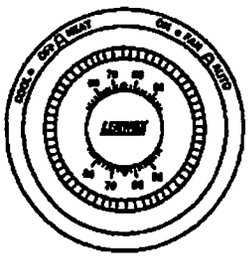
**ELECTRONIC AIR CLEANER**

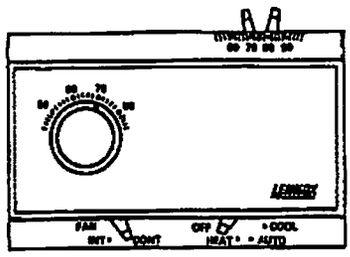


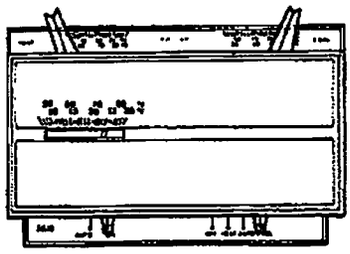
**HUMIDIFIER**

# THERMOSTAT OPERATION

A thermostat is an adjustable temperature actuated switch. It automatically turns heating and cooling equipment on and off to maintain constant, controlled temperatures within a building. While thermostats vary with the type of system in your home, the following information applies to most Lennox thermostats.







## SYSTEM SWITCH

**Positions: "HEAT-OFF-COOL" or "OFF-HEAT-AUTO-COOL".** Set the system switch for either heating or cooling. Some thermostats have an "AUTO" setting for automatic heat-cool changeover. This "AUTO" setting may not provide the most economical energy usage, as the system will heat or cool to maintain the temperature chosen, unless your thermostat has two TEMPERATURE SELECTOR settings, one for heating and one for cooling. This gives the best control in the "AUTO" position, since it allows a range between heating and cooling where equipment operation is not needed.

## FAN SWITCH

**Positions: "AUTO-ON" or "INT-CONT".** The "AUTO" or "INT" setting is for intermittent blower operation, that is, the blower will run only when the thermostat calls for either heating or cooling. The "ON" or "CONT" setting will run the blower continuously, regardless if the equipment is heating or cooling.

It is generally more satisfactory to operate the indoor blower continuously, as it provides constant air circulation and filtering, with a more even temperature from floor to ceiling, and room to room.

## TEMPERATURE SELECTOR

Simply set indicator on thermostat to desired temperature. Some thermostats may have two temperature settings, one for heating, and one for cooling.

## THERMOSTATS FOR LENNOX TWO SPEED-POWER SAVER® COOLING UNITS

Lennox units that are equipped with energy saving two speed compressors are installed with matching "two stage" thermostats. The "two stage" thermostat has two cooling circuits, and corresponding colored indicator lights. First stage controls low speed compressor operation, and second stage controls high speed. A green light indicates low speed, and an amber light indicates high speed operation. The compressor will operate for long periods of time at low speed. This is perfectly normal, and is the way the system was designed to operate. Maximum comfort is maintained in this matched load condition by constant dehumidification, and even temperature levels.

Some two speed compressor systems are equipped with a blower control kit that operates the indoor blower at low speed during first stage, and at a higher speed for second stage cooling. This feature is used in climates where additional humidity control is required. The blower will change speed automatically with the first and second stage thermostat demand. When the "FAN" switch on the thermostat is set for continuous blower operation the blower operates at the higher speed.

## PROGRAMMABLE THERMOSTATS

With the use of higher efficiency equipment, and increased interest in saving on energy bills, many systems are installed with programmable thermostats. These provide the same SYSTEM and FAN control as standard thermostats, but also provide automatic heating setback and cooling setup. Please refer to the separate instructions provided with your programmable thermostat for operation and adjustments. Lennox now provides a programmable thermostat for use with two speed "Power Saver" cooling units.

# BALANCING YOUR SYSTEM

Your Lennox installer has made the basic adjustments to the air distribution system in your home. But you and your family are the only ones who know exactly to what degree you want the various rooms conditioned. For that reason, you are the most logical person to "balance" the system.

Balancing is a simple procedure of controlling the amount of conditioned air delivered to the various rooms in your house.

## There are five easy steps in balancing the system.

**1.** Pick a day when the temperature of the outside air is typical for the time of year. Leave the thermostat on one setting for several hours before proceeding to step 2. All dampers, ducts, and registers should be open.

**2.** Check the temperatures in all rooms. You can do this by using thermometers. The thermometers should register equally. Take temperatures in each room two or three feet off the floor and near the center. Doors to rooms should be left in their normal positions; closed or open. Let the system operate about 30 minutes before taking thermometer readings.

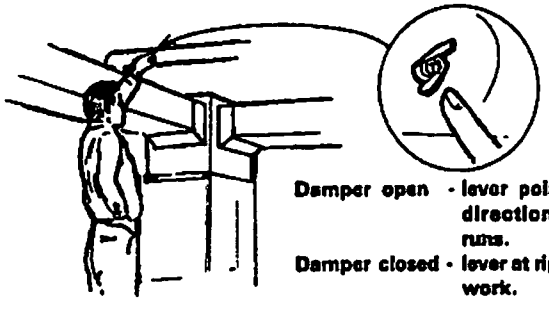
**3.** If you find some of the rooms are too cool (in the cooling mode), or too warm (in the heating mode), partially close dampers to outlets in these rooms. Make any adjustments in one room at a time. It is best to start with the room that contains the thermostat.

**CAUTION: Only move dampers a very small amount at any one time. Never make a large adjustment in the damper position or close dampers completely as this will reduce system air flow and can cause system damage.**

**4.** As air delivery is reduced at some outlets, it automatically increases at others. So after air has been reduced to rooms that need less conditioning, allow the system to run for 30 minutes or more. Then check temperatures again; the formerly uncomfortable rooms will have become conditioned more to your requirements.

**5.** Continue to make very slight adjustments to the dampers until rooms reach the temperature balance you want. Be sure to allow enough time for the temperatures to stabilize after you make each adjustment. Also, check temperatures in each room each time, because as you cut the delivery to one room, you can never be sure which other rooms will receive the resulting gain.

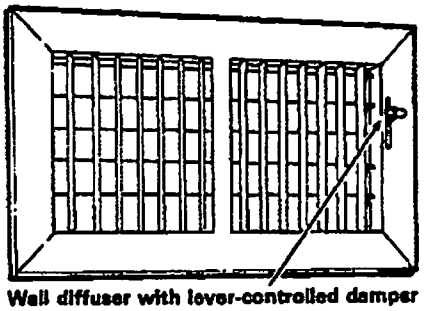
**Adjusting damper in supply air duct.**



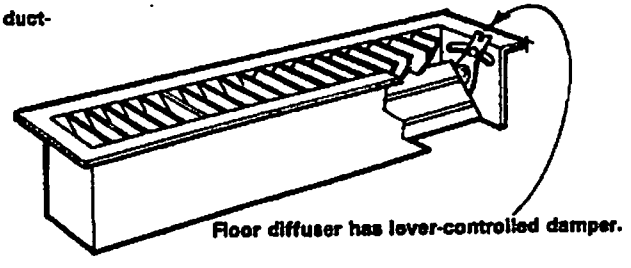
**Damper open** - lever points in the same direction as ductwork runs.

**Damper closed** - lever at right angle to ductwork.

**Where dampers are in supply ducts, adjust them; leave diffuser dampers wide open. If there are no dampers in the ducts, adjust the dampers in the diffusers.**



**Wall diffuser with lever-controlled damper**



**Floor diffuser has lever-controlled damper.**

**NOTE — Never completely close dampers or diffusers**

# GENERAL MAINTENANCE GUIDE

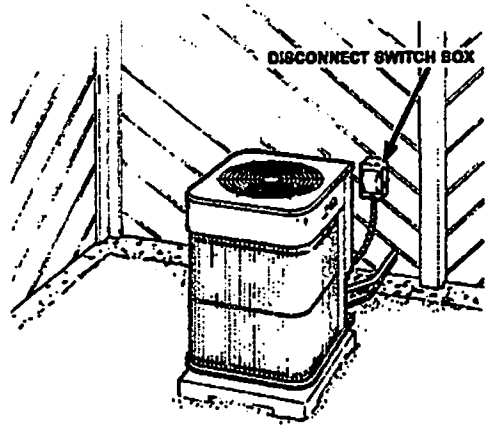
Your heating/cooling equipment should be inspected at least yearly by a trained Lennox serviceman. Your dealer can provide a Planned Service contract that will keep your equipment operating at peak efficiency year after year.

## OUTDOOR EQUIPMENT

### OUTDOOR COOLING UNIT

1. Check that grass, leaves, dirt, etc. do not obstruct the out door coil. The coil fins may be cleaned by flushing with a water hose. **BE SURE TO SHUT OFF POWER TO UNIT BEFORE FLUSHING TO AVOID ELECTRICAL SHOCK HAZARD.** Do not flatten or bend coil fins, as this will harm unit efficiency.
2. The fan motor in the outdoor unit may be oiled with a few drops of SAE No. 10 non-detergent oil every 1-2 years. This should result in longer bearing life. If the motor has no provisions for oiling, the bearings are permanently lubricated and sealed.

   You may choose to have your Lennox serviceman perform this function as required, as some unit disassembly is required to reach fan motor oiling ports.
3. The outdoor unit should be setting with proper slope and graded so there is no buildup of water around unit. If there is a water drainage problem, call your Lennox dealer. Do not attempt to move the unit yourself as this may damage the unit's piping connections, resulting in refrigerant leaks and an inoperative system.
4. Your condensing unit cabinet has been designed for minimum care. An occasional coat of wax will help to prevent deterioration of the finish and enhance its durability.




GROUND SLOPES AWAY FROM UNIT

## INDOOR EQUIPMENT

### INDOOR COOLING COIL

Condensation takes place on the indoor cooling coil and is piped to a suitable drain. Check the condensate drain for free and running condition. If water does not run freely, the drain pipe must be cleaned. Some coils are equipped with an auxiliary drain (second drain). This drain is usually piped to an outside location where it can be observed. The auxiliary drain is a safety device to prevent overflow of condensate into the house. If water runs from the auxiliary drain, it indicates that the main condensate drain is clogged. Immediate steps should then be taken to service the main drain. Your Lennox serviceman is properly trained to remedy this problem, and should be consulted in the event of this poor drainage condition.

### FILTERS

Air filters should be checked monthly. A dirty filter should be replaced or cleaned immediately as it will cause your equipment to work a great deal harder than necessary, resulting in much energy waste and possible internal damage.

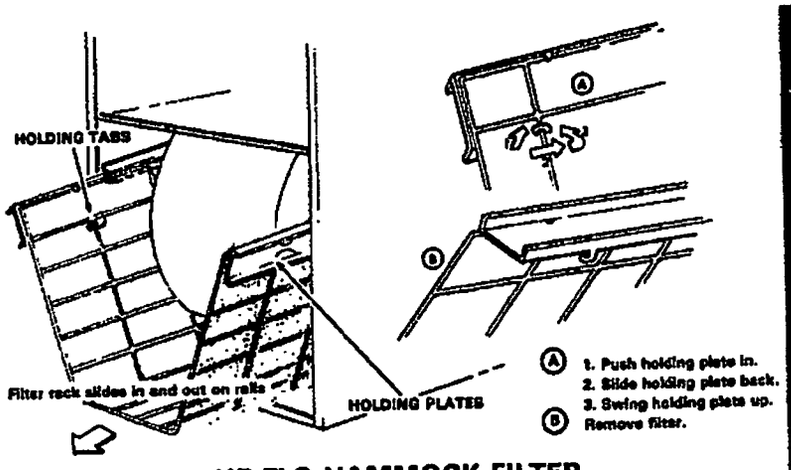
**CAUTION: SHUT POWER OFF TO UNIT BEFORE REMOVING ACCESS PANEL TO CHANGE FILTER. WAIT FOR BLOWER TO STOP.**

**Fiberglass throw-away filters** — Replace when required with new filters of the same size. Place filter into unit so that air flows in the direction of arrows on cardboard frame.

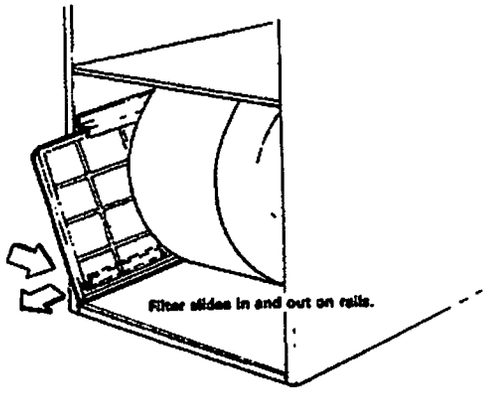
**Plastic foam filters** — Vacuum clean, or wash with mild dishwater detergent. Rinse thoroughly with clean water and allow to completely dry. For increased filtering efficiency, the filter media should be re-sprayed with Filter Handicoater when dry. Filter Handicoater is available from your Lennox dealer as part number: P-8-5069. Replace filter in unit so that air enters the side opposite wire mesh, or in the direction of arrow, if filter has a plastic frame.

**Hammock type filters** — Replace media with the same size, 1" thick fiberglass material. Replacement media material is available from your Lennox dealer. Air should enter the colored side of media.

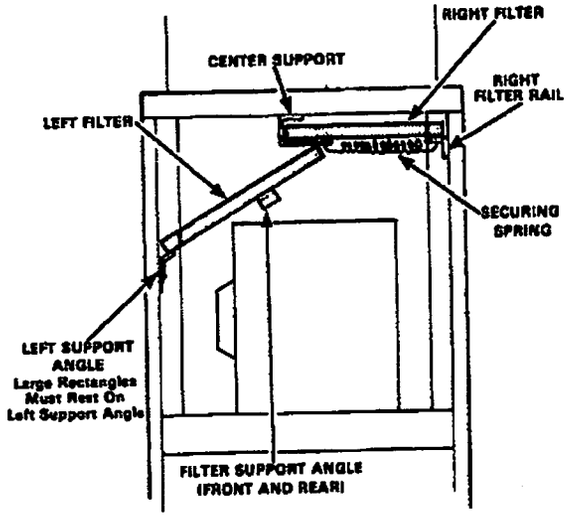
# GENERAL MAINTENANCE (FILTER LOCATION




UP-FLO HAMMOCK FILTER



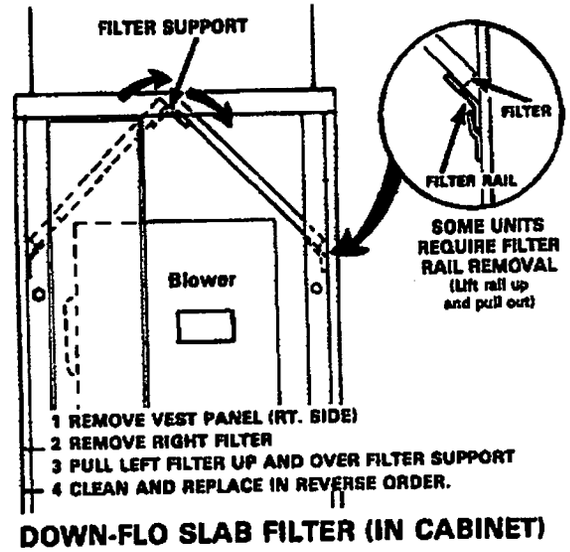

UP-FLO SLAB FILTER



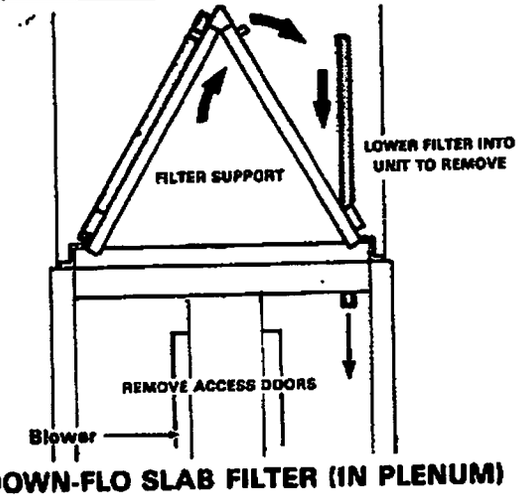

1 - Turn off electrical power at unit disconnect switch.
2 - Remove blower access panel and right vestibule panel.
3 - Remove securing spring from slotted center support tab and right filter rail.
4 - Using slotted center support tab as a handle, slide right filter slightly to the left to clear right filter rail. Slide filter downward to the right, below filter rail and blower and remove filter from cabinet.
5 - Remove left filter by lifting filter up and around blower and out right vestibule panel opening.
6 - Clean filters as outlined and replace.

*IMPORTANT - When plastic framed filters are used, left filter must be positioned in the unit so that the larger rectangles in the filter pattern rest on the left support angle. The smaller rectangles should point toward the top of the unit. This positioning will prevent left filter from falling during operation.*

DOWN-FLO SLAB FILTER (IN CABINET)




DOWN-FLO SLAB FILTER (IN CABINET)




DOWN-FLO SLAB FILTER (IN PLENUM)

*NOTE - Always use papers to protect floor when changing filters. Dispose of used filters promptly. Area around furnace should be kept clean and free of combustibles.*



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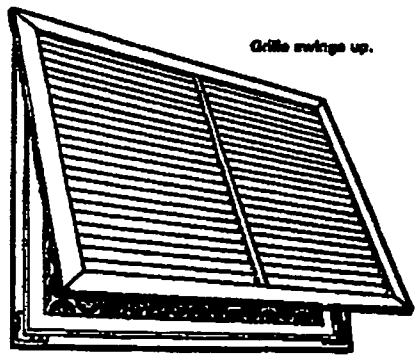
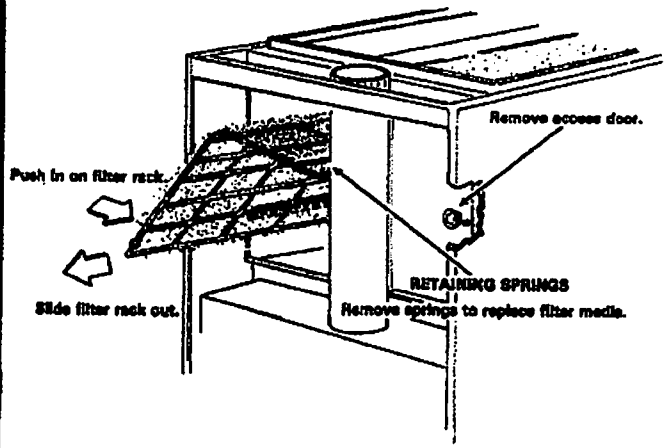
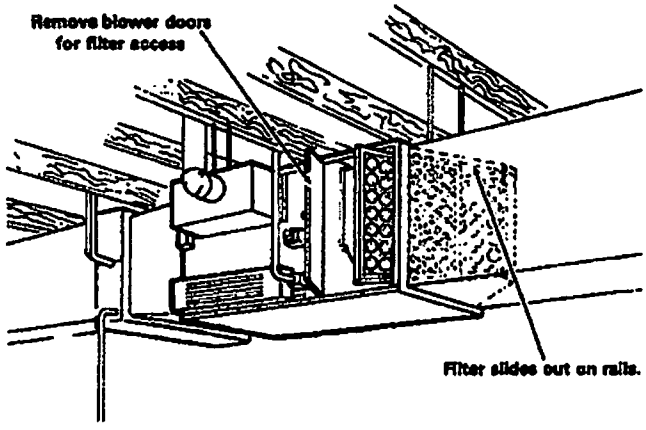
# GENERAL MAINTENANCE (FILTER LOCATION)



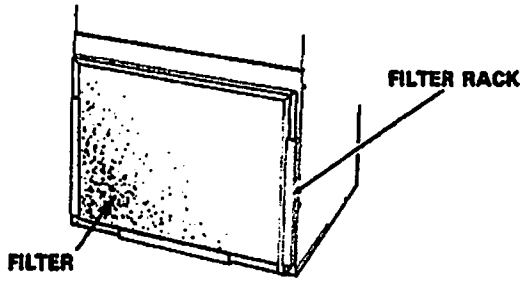

**IN GRILLE FILTER**



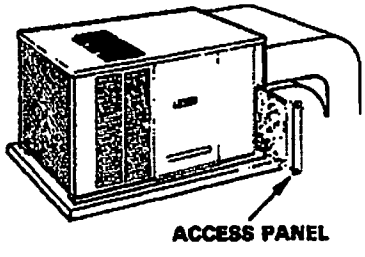

**DOWN-FLO HAMMOCK FILTER**




**HORIZONTAL SLAB FILTER**

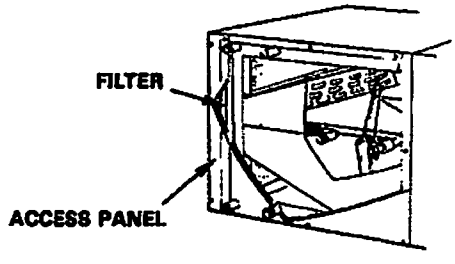



Filter slides in and out from rack on the outside of unit.




To remove filters, first remove access panel. Filters slide in and out on rails.

**OUTDOOR PACKAGED UNITS**




Remove access panel - filter slides in and out

**TYPICAL INDOOR BLOWER/COIL UNITS**

# GENERAL MAINTENANCE GUIDE

## BLOWER ASSEMBLY

Blower motors used in Lennox equipment may be oiled with a few drops of SAE No. 10 non-detergent oil every 1-2 years. This will result in longer bearing life. Other considerations to follow apply to belt drive blower assemblies. See below.

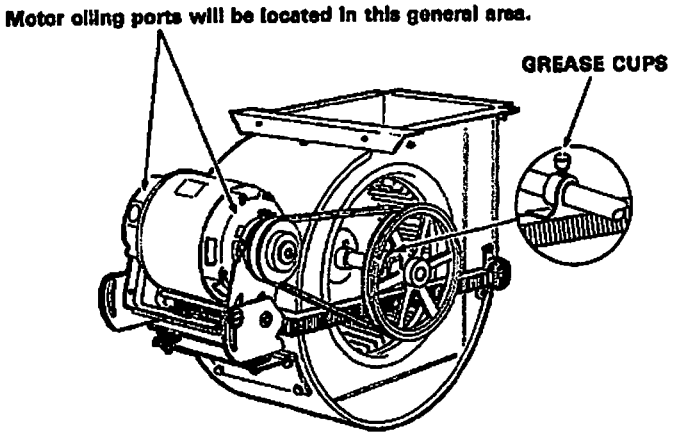
**CAUTION: SHUT POWER OFF TO UNIT BEFORE REMOVING BLOWER ACCESS PANEL. WAIT FOR BLOWER TO STOP.**

**Direct drive blowers** — It may be necessary to remove the complete blower assembly for access to oiling ports. This procedure is not recommended for most equipment owners as special tools and some mechanical ability are necessary. It may be better to have your local Lennox serviceman perform this function as required.

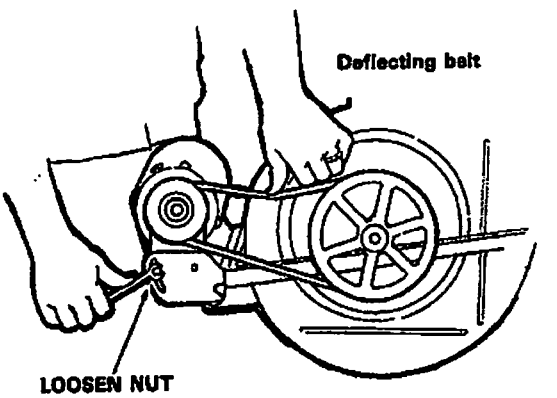
**Belt drive blowers** — See illustration for location of oiling ports on motor.

Belt drive blower assemblies have bearings located on each side of the shaft holding the blower wheel and drive belt pulley. If these bearings are of the type that require lubrication, they will be equipped with grease cups. Simply turn these cups down one full turn annually to lubricate bearings. When these cups are turned to bottom, they must be refilled, using ONLY "Lennox bearing lubricant" available from your dealer.

It is also a good idea to inspect the drive belt annually. The belt should be replaced if it shows any splits or cracks. The tension, or free play of the drive belt should be checked by pushing down on it midway between the two pulleys. The belt should move or deflect 1/2". To adjust the tension of belt, loosen nut on blower motor mount, slide motor up or back. Re-tighten nut. See illustration below.




BELT DRIVE BLOWER



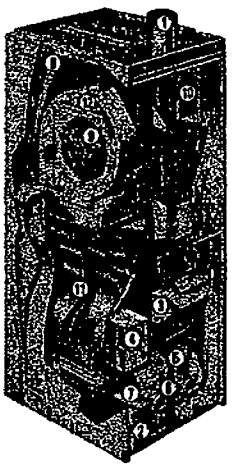

ADJUSTING BELT

# GAS FURNACE SYSTEMS

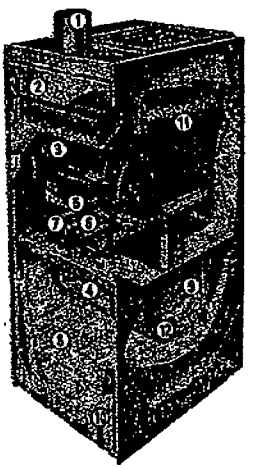
## DOWN-FLO/UP-FLO UNITS

### PARTS ARRANGEMENT

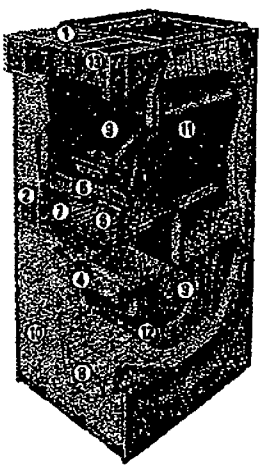
1. Flue collar.
2. Burner access panel. Lift up and out to remove.
3. Fan and limit control.
4. Wiring make-up box.
5. Main gas valve.
6. Pilot burner.
7. Main burners.
8. Air filter.
9. Blower motor. (Indoor)
10. Blower and filter access panel. Lift up and out to remove.
11. DURACURVE® heat exchanger.
12. Direct drive blower.
13. Induced draft assy.



G11R,G11RE,G12R,G12RE
Down-flo series
G12RE Shown



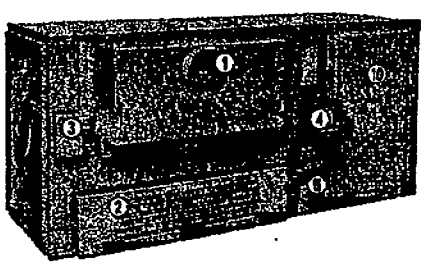
G11,G11E,G12,G12E
Up-flo series
G12E Shown



G16,G16R
G16 Up-flo shown

Other gas furnaces may differ in style and parts arrangement, but information in this booklet applies in general.

## HORIZONTAL UNIT

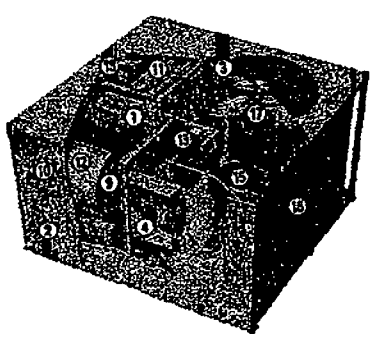


GS11,GS11E
Horizontal
GS11E Shown

## TYPICAL PACKAGED SYSTEM (Entire Unit Sets Outdoor)

### ADDITIONAL PARTS

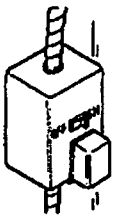
15. Compressor.
16. Outdoor coil. (Condenser)
17. Outdoor fan and motor.
18. Indoor coil. (Evaporator)



Packaged system
Gas heating/electrical cooling
GCS10 Shown

# GAS FURNACE OPERATION

## POWER SUPPLY



DISCONNECT SWITCH BOX

**Packaged System** — Normally the disconnect switch box is mounted on or near these outdoor units.

**Indoor Furance** — Each unit will normally have a disconnect switch mounted on or near it.

The disconnect switch for the equipment may be fused in the disconnect switch box and/or fuses (or circuit breakers) may be located in the main power box of the structure.

## START UP
## (REFER TO PAGE ONE FOR GAS SAFETY INSTRUCTIONS)

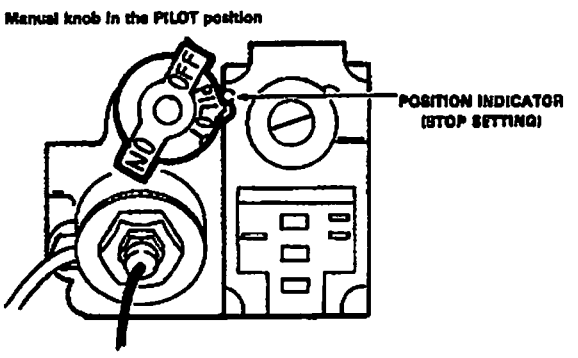
### Furnaces With Pilot Light

**To Place Furnace In Operation — Lighting the pilot —**

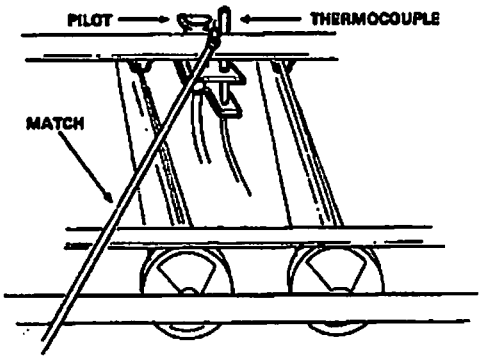
1 - With the thermostat set below room temperature and power off to furnace, turn the manual knob of the gas valve clockwise to the stop setting. Depress and turn to **OFF** position. WAIT 5 MINUTES.
2 - Turn manual knob of the gas valve counterclockwise to **ON** position. Then turn manual knob clockwise to the **PILOT** position.
3 - With the manual knob in the **PILOT** position, press down until it bottoms and hold in place.
4 - Light pilot attached to main burner. (Use a long fireplace match or a regular match taped to a wire. See illustration.)
5 - Continue to hold knob down for 60 seconds. Release knob, pilot should stay lit, then turn knob to **ON** position. If the pilot goes out, repeat above instructions.
6 - Turn power on. Set thermostat to desired room temperature.

**To shut off furnace —**

1 - Set thermostat to lowest setting.
2 - Turn off power supply to the furnace.
3 - Turn manual knob of the gas valve clockwise to the stop. Depress knob and turn to the **OFF** position.




GAS VALVE FOR MANUAL PILOT GAS FURNACE




LIGHTING THE PILOT

### Furnaces With Electric Ignition

These units are equipped with an intermittent pilot ignition system. **Do not attempt to manually light pilot.** Each time the thermostat calls for heat an electric spark ignites the pilot. The pilot does not burn when there is no call for heat.

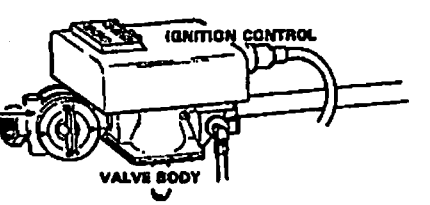
**To place furnace in operation —**

*1 - With the thermostat set below room temperature and power to the furnace off, turn the manual knob of the gas valve clockwise to the **OFF** position. WAIT 5 MINUTES.
2 - Turn manual knob of the gas valve counterclockwise to **ON** position. Turn power on to the furnace and set thermostat above room temperature.
3 - If furnace does not start, repeat above instructions. Depress reset button on ignition control (Robertshaw only).
4 - Set thermostat to desired room temperature.

**To shut off furnace —**

1 - Set thermostat to lowest setting.
2 - Turn off power supply to the furnace.
*3 - Turn manual knob of the gas valve clockwise to the **OFF** position.

*On some gas valves, the manual knob must be depressed to turn off.



# GAS FURNACE MAINTENANCE

A qualified Lennox serviceman should perform most maintenance tasks to your furnace, however, there are a few procedures that the equipment owner can perform. Blower and Filter maintenance is covered on pages 6 through 8 of the General Maintenance section of this manual. The following are inspection checks that should be performed at least annually, at the beginning of each heating season.

**CAUTION: TURN OFF POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE.**

### FLUE AND CHIMNEY

Check flue pipe and chimney connections occasionally for tightness. Make sure there is no blockage, such as could be caused by bird or insect nests, leaves, etc. Do not operate furnace if any holes or loose connections are found in the flue pipe as combustion products could escape into your home. Your Lennox dealer can best evaluate and repair any suspected flue pipe damage.

### COMBUSTION AREA

The combustion area should be visually inspected before each heating season. Accumulation of dirt and soot can result in loss of efficiency and improper performance. Accumulations on the main burners can cause poor firing and inadequate flame. Your Lennox serviceman should be consulted if any of these problems occur. Do not operate your furnace until service has been performed.

# BEFORE CALLING FOR SERVICE

If your furnace does not appear to be performing properly, or does not operate at all, it may save the cost of an unscheduled service call if you check a few conditions yourself, before calling your dealer for service.

### INSUFFICIENT AIR FLOW

If you sense a change in air flow, a dirty air filter is the most likely cause. Inspect the air filter, following the procedures in the General Maintenance section, pages 6 and 7.

Another cause of insufficient air flow is a blocked return-air or supply-air grille. Be sure all of these grilles are not covered by furniture or other items.

### FURNACE FAILS TO OPERATE

If your furnace fails to operate, follow these step-by-step instructions, and proceed only to the next step if the furnace fails to start.

1. Check that your room thermostat temperature selector is set above house temperature, and the SYSTEM switch is in the HEAT position (heating/cooling thermostat).
2. On electric ignition units, turn room thermostat "off", then back "on" to reset the ignition control.
3. Is the unit power supply switch "on"? The power supply switch is often mounted on or near the unit.
4. Check the house fuse box for a blown fuse or tripped circuit breaker.
5. Check the blower access panel. It must be firmly in place for the unit to operate.
6. Check the air filter. An extremely dirty air filter can cause furnace safety controls to shut down the system.
7. Check to be sure that the manual shut-off valve in the gas supply pipe leading to your furnace is in the open position. The valve is open if the lever points in the same direction the pipe runs, and it is closed if the lever is at a right angle to the pipe. If the valve is closed, (Check and make sure gas is not turned off for safety reasons.) open it; then follow the startup procedures on page 11.

**Note: Before proceeding to the next step, turn OFF the electrical power supply to your furnace, and remove burner access panel.**

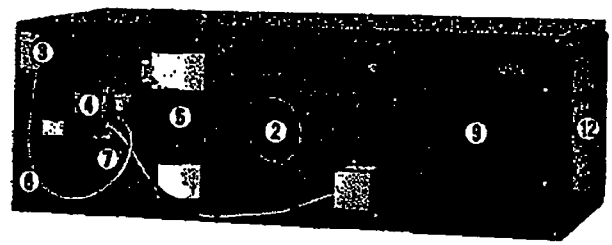
8. Is the internal manual shutoff valve open? (Electronic ignition units only.)
9. Check the manual knob on the gas valve to be sure that it is in the ON position.
10. If you have a standing pilot furnace, visually check the pilot flame. If the pilot is not lit, follow the startup procedures on page 11.
11. If the furnace still does not operate, call your Lennox serviceman.

# OIL FURNACE SYSTEMS

## HORIZONTAL UNIT

### PARTS ARRANGEMENT

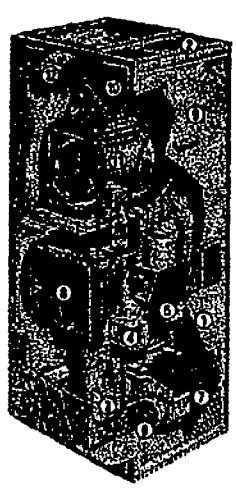
1. Burner access panel.
2. Flue connection.
3. Fan and limit controls.
4. Primary safety control and reset button.
5. Flame observation port.
6. Fuel pump.
7. Burner motor.
8. Heat exchanger.
9. Blower and filter access panel.
10. Blower motor.
11. Blower.
12. Air filter.



Typical horizontal unit
OS12 shown

Other oil furnaces may differ in style and parts arrangement, but information in this booklet applies in general.

## DOWN-FLO/UP-FLO UNITS

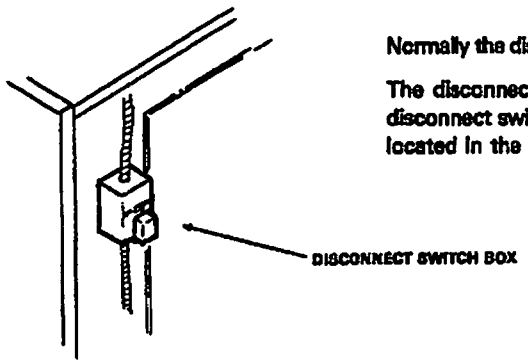


Down-flo series
O12R shown

Up-flo series
O12 shown

# OIL FURNACE OPERATION

## POWER SUPPLY




Normally the disconnect switch box is mounted on or near the unit.

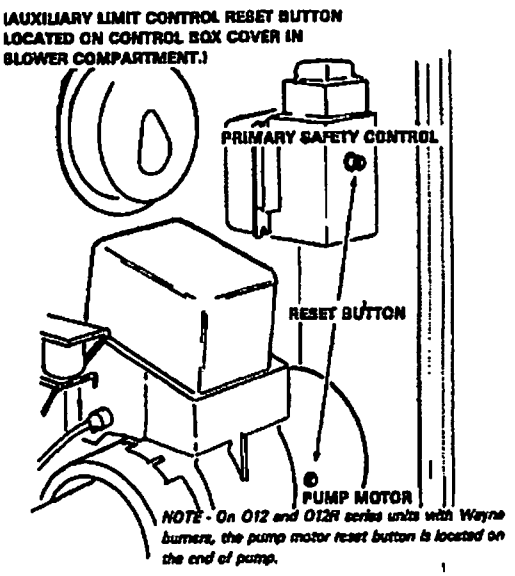
The disconnect switch for the equipment may be fused in the disconnect switch box and/or fuses (or circuit breakers) may be located in the main power box of the structure.

## START UP

Before starting the furnace, make sure there is oil in the fuel tank, and the supply valve is open. Check that power supply is on.

Set thermostat above room temperature. The furnace should cycle according to the setting. The spark for fuel ignition is provided automatically on demand from the room thermostat. There is no pilot flame to light.

If the unit fails to start, push reset button on primary safety control, burner motor reset button, and auxiliary limit control reset button. See illustration.




**To shut off furnace —**

1 - Set thermostat to lowest setting.

2 - Turn off power supply to furnace.

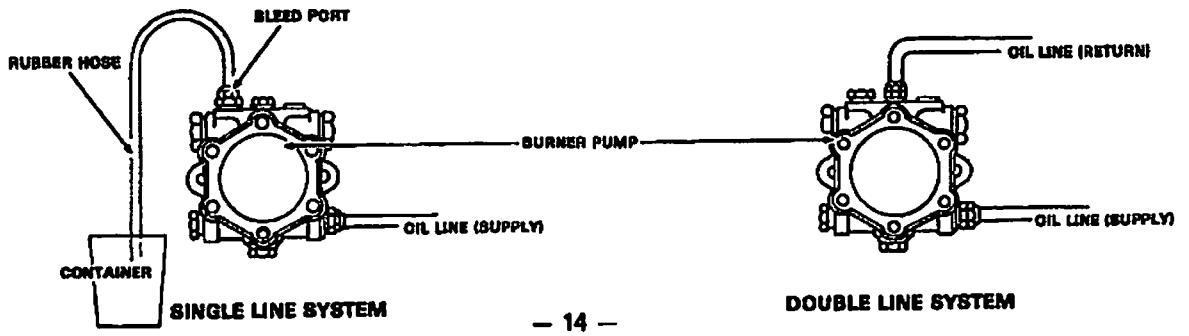
### STARTING NOTE

If you are starting your furnace for the first time, or the fuel tank has gone dry before re-filling, it may be necessary to bleed trapped air from the fuel line. Single line systems are the only type that may need this procedure, as double line systems will bleed automatically.

To bleed the fuel line, first shut off power at the disconnect switch. Set the thermostat to above room temperature. Place a length of plastic tubing over the bleed port stem on the burner pump, and run into a moisture proof container. Open bleed port one full turn counter-clockwise. See illustration.

Start pump by turning the disconnect switch on. An oil and air mixture will flow from the bleed port into the container. When a steady stream of oil flows from the port (free of bubbles), turn the disconnect switch off, and close the bleed port by turning it clockwise. Remove plastic tube and container. Your furnace should now be ready to operate.

During the bleeding process, the primary safety control may lock out, causing the burner to shut down. This will normally occur after 30 to 45 seconds of pump operation without ignition. The open bleed port will prevent ignition, thus possibly locking out the primary safety control. To re-set the primary safety control, wait two to five minutes and push the primary reset button. Proceed with the bleeding process.



# OIL FURNACE MAINTENANCE

A qualified Lennox serviceman should perform most maintenance tasks to your furnace, however, there are a few procedures that the equipment owner can perform. Blower and Filter maintenance is covered on pages 6 through 8 of the General Maintenance section of this manual. The following are inspection checks that should be performed at least annually, at the beginning of each heating season.

**CAUTION: TURN OFF POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE.**

### FLUE AND CHIMNEY

Check flue pipe and chimney connections occasionally for tightness. Make sure there is no blockage, such as could be caused by bird or insect nests, leaves, etc. Do not operate furnace if any holes or loose connections are found in the flue pipe, as combustion products could escape into your home. Your Lennox dealer can best evaluate and repair any suspected flue pipe damage.

### OIL BURNER

The oil burner is a precision part of your furnace. To assure peak performance and operating efficiency, the burner should be cleaned and adjusted at the beginning of each heating season by a qualified serviceman, since this procedure requires special test equipment.

### OIL LINES

Inspect all oil lines between the oil tank and burner for damage, loose connections or breaks. Check the oil line supports, as a loose oil line can vibrate and transmit noise back to the oil tank.

# BEFORE CALLING FOR SERVICE

If your furnace does not appear to be performing properly, or does not operate at all, it may save the cost of an unscheduled service call if you check a few conditions yourself, before calling your dealer for service.

### INSUFFICIENT AIR FLOW

If you sense a change in air flow, a dirty air filter is the most likely cause. Inspect the air filter, following the procedures in the General Maintenance section, pages 6 and 7.

Another common cause of insufficient air flow is a blocked return-air or supply-air grille. Be sure all of these grilles are not covered by furniture or other items.

### FURNACE FAILS TO OPERATE

If your furnace fails to operate, follow these step-by-step instructions, and proceed only to the next step if the furnace fails to start.

1. Check that your room thermostat temperature selector is set above house temperature, and the SYSTEM switch is in the HEAT position.
2. Is the unit power supply switch "ON"? The power supply switch is often mounted on or near the unit.
3. Check the house fuse box for a blown fuse or tripped circuit breaker.
4. Check the air filter. An extremely dirty air filter can cause furnace safety controls to shut down the system.
5. Check the flue for blockage.
6. Is there oil in the fuel tank?
7. Is the supply valve at the fuel tank open?
8. Is there air in the fuel line? See "STARTING NOTE" on page 14 for information on bleeding air from the system.
9. Check the primary safety control. (Wait five minutes, then push button). See illustration.
10. Check the pump motor reset button. (Push to reset.) See illustration. **CAUTION - Do not push reset button more than twice.**
11. Check auxiliary limit (push to reset).
12. If your furnace still does not operate, call your Lennox serviceman.

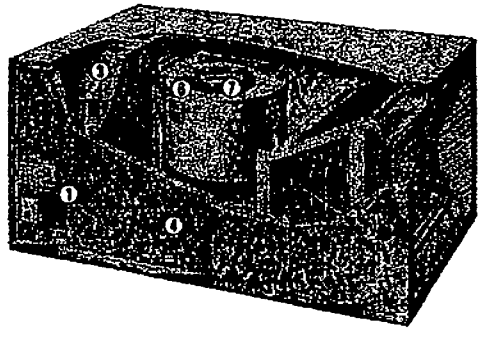
# ELECTRIC FURNACE SYSTEMS

Other electric furnaces may differ in style and parts arrangement, but information in this booklet applies in general.

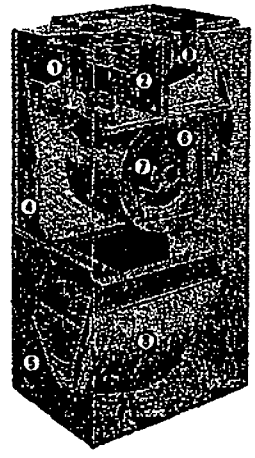
## PARTS ARRANGEMENT

1. Circuit breakers; main power protection.
2. Automatic controls for sequencing heating elements on and off.
3. Electric heating elements.
4. Blower access panel.
5. Filter access panel.
6. Blower
7. Blower motor.
8. Air filter.

Horizontal Model



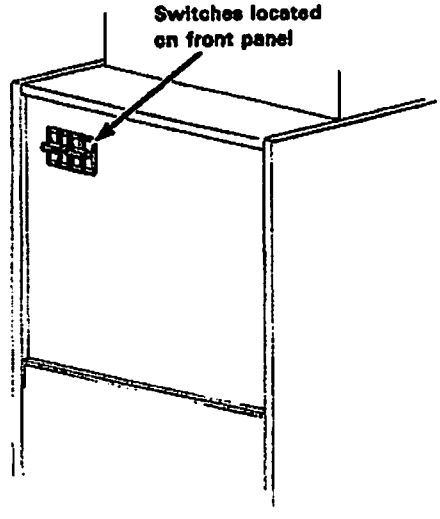
Up-Flo Model



# ELECTRIC FURNACE OPERATION

## POWER SUPPLY

Normally the disconnect switch is mounted on the element access panel of the unit. (If these switches are not used as the disconnect switch, the disconnect will be mounted in or near the main power box of the structure.




## START UP

Check that the power supply is on. Set the thermostat above room temperature. The furnace should cycle according to the thermostat setting.

To shut off furnace —
1 - Set thermostat to lowest setting
2 - Turn off power supply to furnace

# ELECTRIC FURNACE MAINTENANCE

Your Lennox electric furnace requires very little owner maintenance. Blower and Filter maintenance, covered on pages 6 through 8 of the General Maintenance section are the main routine items the owner should service.

**CAUTION: TURN OFF POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE.**

# BEFORE CALLING FOR SERVICE

If your furnace does not appear to be performing properly, or does not operate at all, it may save the cost of an unscheduled service call if you check a few conditions yourself, before calling your dealer for service.

## INSUFFICIENT AIR FLOW

If you sense a change in air flow, a dirty air filter is the most likely cause. Inspect the air filter following the procedures in the General Maintenance section, pages 6 and 7.

Another common cause of insufficient air flow is a blocked return-air or supply-air grille. Be sure all of these grilles are not covered by furniture or other items.

## FURNACE FAILS TO OPERATE

If your furnace fails to operate, follow these step-by-step instructions, and proceed only to the next step if the furnace fails to start.

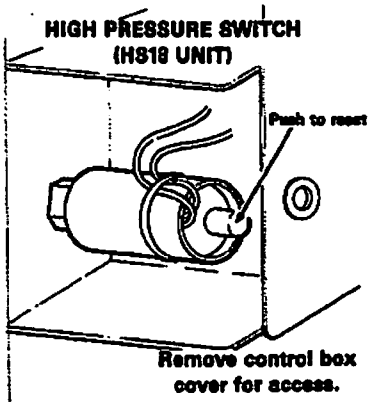
1. Check that your room thermostat temperature selector is set above house temperature, and the system switch is in the HEAT position.
2. Is the unit power switch on?
3. Check the house fuse box for a blown fuse or tripped circuit breaker.
4. Check the air filter. An extremely dirty air filter can cause furnace safety controls to shut down the system.
5. If your furnace still does not operate, call your Lennox serviceman.

# COOLING SYSTEMS

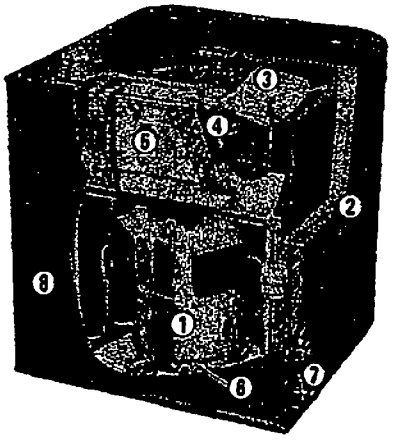
## OUTDOOR CONDENSING UNIT

### PARTS ARRANGEMENT

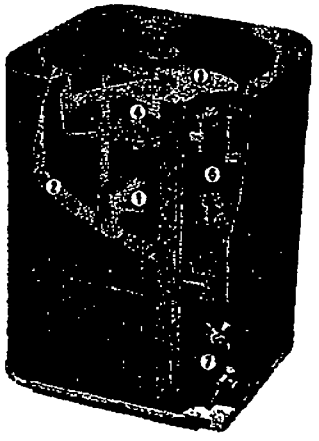
1. Compressor.
2. Outdoor coil. (Condensing)
3. Outdoor fan.
4. Outdoor fan motor.
5. Control box.
6. Compressor crankcase heater.
7. Refrigerant line connections.
8. Compressor compartment access door.




Remove control box cover for access.




HS9, HS10, HS13, HS14, HS16, HS19
HS14 POWER SAVER® SHOWN



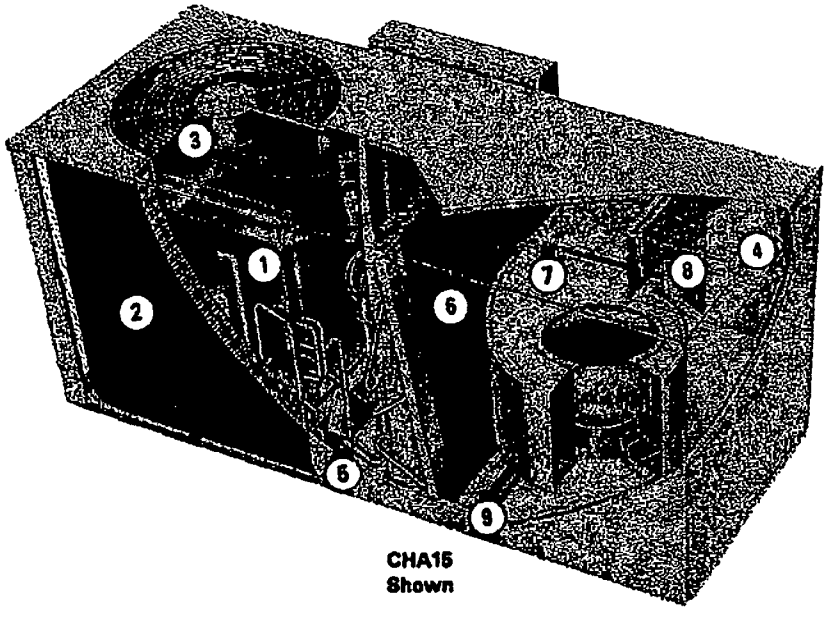
HS18 Shown

Other cooling units may differ in style and parts arrangement, but information in this booklet applies in general.

## TYPICAL PACKAGED SYSTEM (Entire Unit Sits Outdoors)

### PARTS ARRANGEMENT

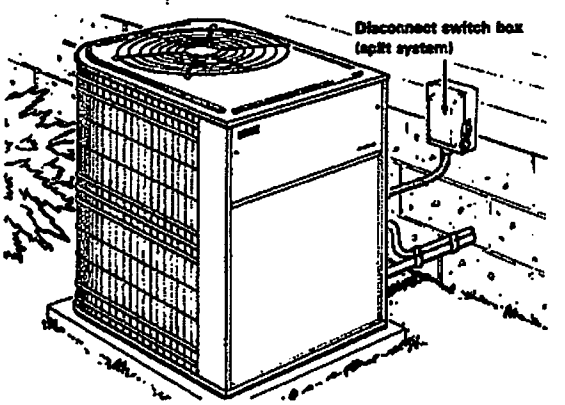
1. Compressor.
2. Outdoor coil. (Condensing)
3. Outdoor fan.
4. Control box.
5. Compressor compartment access door.
6. Evaporator coil.
7. Indoor blower.
8. Optional electric heat.
9. Condensate drain.




CHA15
Shown

# COOLING SYSTEM OPERATION

## POWER SUPPLY




**Single Package System** — Normally the disconnect switch box is mounted on or near these outdoor units.

**Split Systems** — Each unit (indoor and outdoor) will normally have a disconnect switch mounted on or near each unit.

The disconnect switch for the equipment may be fused in the disconnect switch box and/or fuses (or circuit breakers) may be located in the main power box of the structure.

## START UP

Your Lennox cooling system is fully automatic, working on a thermostat demand for cooling. To begin operation:

**CAUTION — If your condensing unit is equipped with a compressor crankcase heater, you must have the power supply to the unit on for 24 hours before using the cooling system.** If you are not sure if your unit incorporates a compressor crankcase heater, ask your Lennox Dealer

Check that the power supply is on. Set the room thermostat to the cooling mode, and set the temperature selector switch below room temperature. The cooling system should cycle according to the temperature setting.

Note: Do not move the thermostat temperature setting excessively, as this may blow a fuse or trip a circuit breaker. Allow at least five minutes after unit shuts off before readjusting thermostat to restart cooling unit. This allows time for pressures in the system to equalize for proper compressor startup. Best operation is obtained by setting the thermostat at the desired temperature and leaving it there, allowing the thermostat to cycle the equipment, rather than readjusting the setting manually to turn cooling on and off. If temperature is not even and comfortable in all rooms, refer to "BALANCING YOUR SYSTEM" on page 5.

Many models of Lennox condensing units incorporate a compressor crankcase heater. Crankcase heaters are useful during cool weather conditions. During cool weather, refrigerant in the system can migrate to the compressor crankcase, condensed in a liquid state, mixed with the compressor oil. Should the compressor be started under these conditions, it would be forced to pump liquid refrigerant and oil; this would damage or ruin the compressor, since a compressor is only designed to compress refrigerant as a gas. It would also cause lubrication problems because the compressor oil would be pumped out of the crankcase with the liquid refrigerant.

This is where the crankcase heater comes into play as a protective device for the compressor. At cooler temperatures the heater is on, raising the temperature of the crankcase enough to prevent refrigerant from condensing to a liquid in the compressor.

If you do not plan to use your cooling system for long periods of time, such as October through March winter months, you can turn off power to the unit. This will save electrical energy, as crankcase heaters use 30-65 watts of power. The power MUST be turned on for AT LEAST 24 HOURS prior to setting your room thermostat to cooling to run the unit.

Some cooling systems have a timed interlock control that will prevent the compressor from operating for up to five minutes between cycles. The unit will restart automatically on thermostat demand, when this internal timing cycle is completed. This delay may be noticed when setting thermostat for a cooler temperature and the cooling unit does not start immediately, this is normal.

Two speed Power Saver® units have both a timed interlock control and a built in delay between low and high speed. It is normal for these units to shut off for a few seconds between speed changes.

**To shut off cooling unit —**

1 - Set thermostat to the highest setting, and/or the SYSTEM switch to off.
2 - Turn off power supply to unit.

# COOLING SYSTEM MAINTENANCE

Your Lennox cooling system requires very little owner maintenance. **Blower, Filter, Condensate Drain** and **Outdoor Coil** maintenance, covered on pages 6 through 8 of the General Maintenance section are the main routine items that the owner should service.

**CAUTION: TURN OFF POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE.**

# BEFORE CALLING FOR SERVICE (COOLING SYSTEM)

## INSUFFICIENT AIR FLOW

If you sense a change in air flow, a dirty air filter is the most likely cause. Inspect the air filter, following the procedures in the General Maintenance section, pages 6 and 7.

Another common cause of insufficient air flow is a blocked return-air or supply-air grille. Be sure all of these grilles are not covered by furniture or other items.

Systems with belt drive blowers require adjustment of the blower motor pulley to set blower speed for proper air flow at the beginning of the cooling season. Have your Lennox serviceman perform this adjustment. The slower blower speed, used for heating, may cause icing on the indoor (evaporator) coil and insufficient air distribution to the living area for cooling system operation. These conditions will cause damage to the cooling system. It is very important that belt drive blowers be re-adjusted at the beginning of each heating and each cooling season.

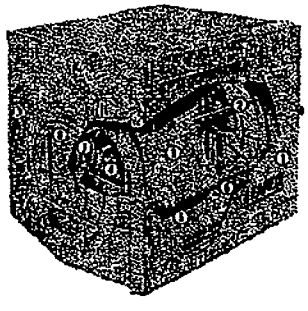
## COOLING SYSTEM FAILS TO OPERATE

If your cooling system fails to operate, follow these step-by-step instructions, and proceed only to the next step if the system fails to start.

1. Check that your room thermostat temperature selector is set below house temperature, and the system switch is in the COOL position.
2. Is the outdoor unit power supply switch "on"?
3. Is the furnace power supply "on"? The furnace provides low voltage power for thermostat operation.
4. Check the house fuse box for a blown fuse or tripped circuit breaker.
5. If your unit has a high pressure switch; Shut off power to unit. Remove access panel to compressor compartment (or control box cover on HS18 units). The high pressure switch will normally be located on the outdoor coil piping. Push button on switch to reset. DO NOT PUSH RESET BUTTON MORE THAN TWICE. Replace access panel and restore power to unit. See illustration on page 18 for an example of high pressure switch location.
6. If the system still does not operate, call your Lennox serviceman.

# HUMIDIFIERS

## DRUM TYPE HUMIDIFIER

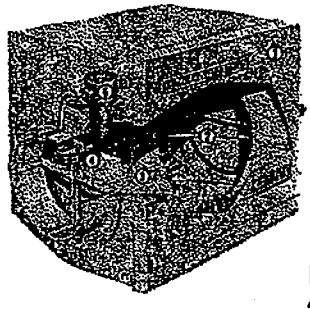


WD1 Shown

**PARTS ARRANGEMENT**

1. Access door.
2. Drum assembly.
3. Media.
4. Drum clutch.
5. Water valve and float.
6. Reservoir.
7. Motor.
8. Motor well cover.

## SPRAY TYPE HUMIDIFIER



WS1 Shown

**PARTS ARRANGEMENT**

1. Access door.
2. Media support.
3. Media.
4. Water nozzle.
5. Solenoid valve.

# HUMIDIFIER OPERATION

Lennox systems use either of two styles of humidifiers. The WS1 is a spray model, and the WD1 is a rotating drum type. Both types are mounted on the return air plenum or duct of your furnace, and connected to the supply air plenum or duct, usually with a flexible pipe. This allows warm supply air to flow through the humidifier, pick up moisture and re-enter the air stream on the return air side.

On WS1 models (spray type) warm air passes over a foam filter media moistened by a fine spray of water from a nozzle. An electric valve is used to turn the water spray on and off.

On WD1 models (drum type) warm air flows through a cylinder of foam filter media that is moistened as it rotates through a water reservoir pan. Water level in the pan is controlled by a float valve, and a small motor rotates the drum.

A humidistat mounted on an interior wall, usually near your thermostat, is used to control operation of the humidifier.

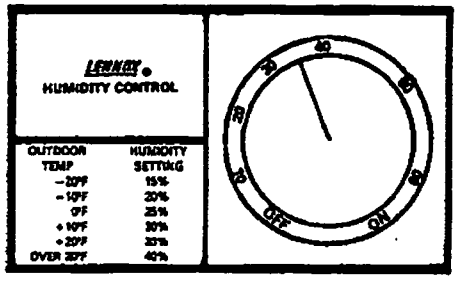
## POWER SUPPLY

Your Lennox humidifier is wired in conjunction with your furnace. Power to the furnace must be on, and the humidifier will operate when the furnace blower is distributing air throughout the duct system, with a demand from the humidistat.

## START UP

To place your humidifier in operation, follow these steps:

% HUMIDITY CONTROL DIAL




1. Turn on water supply by rotating the saddle valve stem counter-clockwise.
2. Adjust the water level on WD1 units after the water pan has filled. The water level should cover the entire thickness of the drum media where it makes contact. See illustration.

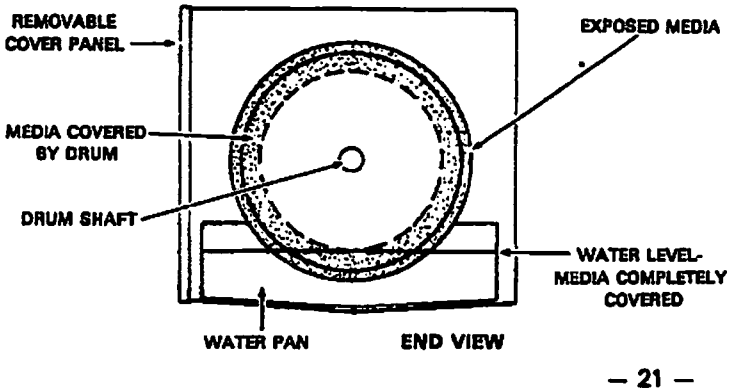
   To raise the water level, turn the adjusting screw above the float arm counter-clockwise. To lower the water level, turn the adjusting screw clockwise. See illustration.
3. Open the pull chain damper (chain in). The damper is located between the humidifier and the return air plenum or duct.
4. Set the humidistat to the desired setting. The adjustment should be made to correspond to the average outdoor temperature. See chart on humidistat above. For example, if your average outdoor temperature is +10°F, set the humidistat at 30%. As average outdoor temperatures change, you may have to readjust the humidistat.

As outdoor temperature drops, condensation may appear on coldest areas inside the house such as windows, exposed concrete walls and other uninsulated areas. A small amount of moisture is normal; but if excessive condensation appears, the humidistat should be turned to a lower setting. Each house is constructed differently and some experimentation may be required to determine the best setting.

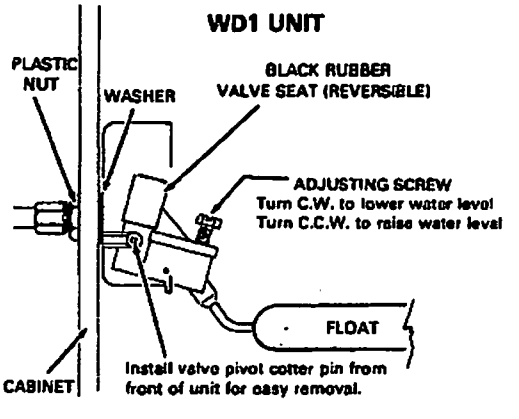
**To shut off humidifier –**

1. Turn off water supply at saddle valve.
2. Turn humidistat control to the "off" position.

WD1 UNIT




WD1 UNIT



# HUMIDIFIER MAINTENANCE

Both rotating drum and spray type humidifiers require periodic cleaning for efficient operation. Maintenance should be performed at least at the beginning and again at the end of each humidifying season. In areas of the country with water of high mineral content, monthly cleanings are advised.

**CAUTION: TURN HUMIDISTAT TO "OFF" POSITION AND SHUT OFF POWER TO FURNACE BEFORE PERFORMING ANY MAINTENANCE.**

### At the start of each humidifying season:

1. Clean the humidifier (see cleaning instructions).
2. Clean or replace media (see cleaning instructions).

### At the end of each humidifying season:

1. Turn the humidistat to the "OFF" position.
2. Turn off water supply.
3. Drain water from pan.
4. Close chain damper (chain out).

## CLEANING INSTRUCTIONS

The cabinet and integral parts may be cleaned by washing with detergent and light scraping where necessary. If any components need to be replaced, they should be replaced with the designated parts available from your Lennox dealer.

Your Lennox dealer will perform any necessary maintenance to your humidifier as part of a Planned Service check if you do not choose to service the unit yourself.

### WS1 HUMIDIFIERS

1. Turn humidistat to "off". Shut off power to furnace. Shut off water supply at saddle valve.
2. Remove media by pulling from under tabs at each end of holder. Hold the media in front of a light source, if a bright light is not visible through media, it should be washed in a soapy water solution and rinsed thoroughly. If the media is worn or shows any tears, replace with Lennox part number: P-8-9880.
3. Replace cleaned or new media under holder tabs so that approximately 1/2 inch of media extends beyond bottom support of holder.
4. Replace access panel and return system to normal operation.

### WD1 HUMIDIFIERS

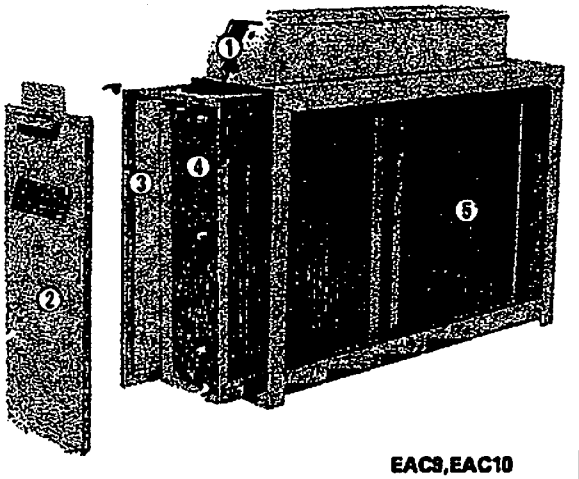
1. Turn humidistat to "off". Shutoff power to furnace. Shut off water supply at saddle valve.
2. Remove drum by lifting open end out of "V" slot and sliding away from motor shaft.
3. Remove large cotter pin from valve. Remove float assembly.
4. Remove reservoir pan and drain water.
5. Remove media from drum and hold in front of a light source. If a bright light is not visible through media, it should be washed in a soapy water solution and rinsed thoroughly. If the media is worn or shows any tears, replace with Lennox part number: P-8-9879.
6. Flush reservoir pan out and clean or replace with a new pan, Lennox part number: LB-23709A.
7. Inspect the clutch. The clutch is located at the motor end of the drum. Remove any scale build up on the outside of the drum hub that would prevent the clutch from rotating.

# ELECTRONIC AIR CLEANERS

## TYPICAL ELECTRONIC AIR CLEANER

**PARTS ARRANGEMENT**

1. Power switch.
2. Access door.
3. Prefilter for large particles.
4. Ionizing cells.
5. Collecting plates.




EAC9,EAC10
EAC10 Shown

**Other electronic air cleaners may differ in style and parts arrangement, but information in this booklet applies in general.**

# ELECTRONIC AIR CLEANER OPERATION

Your electronic air cleaner is wired in conjunction with your furnace or indoor blower unit. It operates only when the blower is running. Airborne particles are carried to the EAC through the return air ducts of your building. Lint and other large particles are caught in the prefilter screen. The remaining particles pass into the ionizing section where they are given an electrical charge. As air moves these charged particles into the collecting section, they are attracted to metal plates carrying an opposite electrical charge.

This process is comparable to the way a magnet attracts iron filings. Particles remain clinging to the metal plates as clean air passes on to the comfort system blower for circulation.

## POWER SUPPLY

Your furnace or indoor blower unit must be turned "on" at its disconnect switch, and be circulating air for your EAC to operate. The EAC has its own power switch. Flip switch for operation, the built-in indicator light glows red when the EAC is operating. To shut off the EAC, flip the power switch to the "OFF" position.

# ELECTRONIC AIR CLEANER MAINTENANCE

Electronic air cleaners need occasional cleaning to keep them operating at peak efficiency.

**CAUTION: TURN POWER SWITCH AT EAC TO "OFF" POSITION AND SHUT OFF POWER TO FURNACE OR BLOWER UNIT BEFORE PERFORMING ANY MAINTENANCE.**

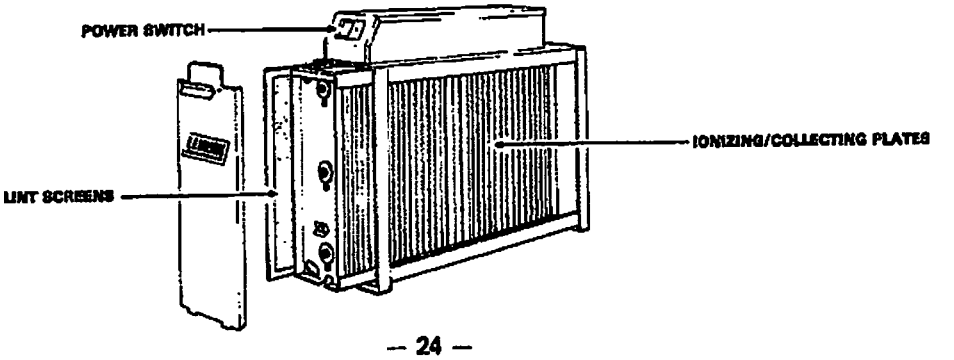
## MAINTENANCE SCHEDULE

1. When to wash: Periodically the dirt collected by your unit must be removed. The frequency of washing will depend on the amount of dirt present in the air in your locality.
2. Frequent washings are in no way harmful to your unit, but prolonged use without cleaning will decrease its dirt collecting ability.
3. The washing frequency best suited for your unit can be determined by examining the dirt collecting components at three week intervals. As dirt begins to collect, you will notice a light film, then a very definite collection will be evident at a later examination. When there is a noticeable build-up of dirt, it is time to wash the cells.
4. Generally, the prefilter lint screens located on the air entering side of the ionizing cells, require cleaning more often than the ionizing-collecting plate section. This is due to collection of larger particles of dirt such as lint, animal hairs, etc., which tend to build up faster than the smaller particles that pass into the collecting plates. A typical washing schedule could be as follows:
   A) Lint Screen — Once every four weeks.
   B) Ionizing — Collecting Cells — Once every eight weeks.

## WASHING INSTRUCTIONS

**Be careful in handling the electronic cells as their edges can be sharp.**

1. Turn EAC power switch "off".
2. Turn "off" power to furnace or blower unit at disconnect switch.
3. Open the EAC access door and slide out lint screens and ionizing-collecting cells. It is not recommended that you operate your comfort system without lint screens and electronic cells in place if they are the only source of filtration in your system.
4. To facilitate washing, place components with air flow arrows pointing up, in an automatic dishwasher, stationery tub, shower stall, or over a floor drain. Use hot soapy water (dishwasher detergent works well) to clean components, and rinse thoroughly. As an aid to drying, rinse with clear, hot water. **Allow components to dry thoroughly before re-installing into EAC unit.**
5. Slide lint screens into the retaining channel on air entering side of cabinet.
6. Slide cells into cabinet with directional "air flow" arrow pointing in the direction of air flow.
7. Replace door.
8. Turn EAC power switch "on".
9. If an arching noise occurs due to wet cells, turn EAC power switch "off" and allow more drying time.



# NOTES ON OPERATING COSTS FOR HEATING AND COOLING SYSTEMS

1. Keep windows and doors closed as much as possible. Unconditioned air, humidity, noise and dust belong outside.
2. Fireplaces provide a nice setting and pleasant atmosphere, however, fireplaces require a great deal of air for combustion and create a strong updraft through the chimney. Be sure the fireplace damper is shut when the fire is completely extinguished, and the fireplace is not in use.
3. Kitchen, bath and utility exhaust fans are a necessity, however, keep in mind that they also remove conditioned air from the house. Their use should be kept at a minimum in order to reduce heating/cooling costs.
4. Keep in mind that washers, dryers, ovens and other home appliances can add heat and humidity to your home. For example, you might consider washing and drying clothes in the morning or evening in the cooling months to avoid adding heat to your home air during peak cooling hours. Venting your clothes dryer to the outside will help keep from adding heat and humidity to the inside air.
5. Your thermostat is a precision instrument, designed to automatically control your heating and cooling system. For best results select a comfortable setting and do not change the thermostat except when absolutely necessary.

# SERVICE AGREEMENT

Your Lennox dealer can offer you a very desirable Planned Service program to keep your comfort system in peak operating condition year after year.

You and your independent Lennox dealer agree to a number of scheduled (Planned) service calls. Each Planned Service call includes equipment inspection, lubrication and adjustment.

## PLANNED SERVICE GIVES YOU:

- Peak, trouble-free system performance
- Greater operating economy
- Fewer emergency calls and breakdowns
- Less inconvenience
- Longer equipment life
- Preferential emergency service
- Peace of mind from planned maintenance by experts

PS PLANNED SERVICE

**Get the full PS story from your independent Lennox dealer.**