

# HOME OWNER'S INFORMATION

## High Efficiency Ultra Low NOx Condensing Gas Furnace

Our products are designed, tested and built in accordance with DOE standardized procedures; however, actual operating results and efficiencies may vary based on manufacturing and supplier tolerances, equipment configuration, operating conditions and installation practices.

### NOTE TO INSTALLER:

*This manual must be left with the equipment user.*

**USER:** Please read all instructions in the manual and retain all manuals for future reference.



Illustrations and photographs are only representative. Some product models may vary.



## WARNING

### FIRE OR EXPLOSION HAZARD

Failure to follow safety warning exactly could result in personal injury, death, or property damage.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

### WHAT TO DO IF YOU SMELL GAS

-Do not try to light any appliance.

-Do not touch any electrical switch; do not use any phone in your building.

-Leave the building immediately.

-Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

-If you cannot reach your gas supplier, call the fire department.

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



## WARNING

### CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury and/or death.

Carbon Monoxide is invisible, odorless, and toxic! Install a carbon monoxide alarm in your home. Most states have laws that require carbon monoxide alarms in the home. Locate the carbon monoxide alarm in the living area of your home and away from gas appliances and doorways to attached garages. Follow the alarm manufacturer's instruction included with the alarm.



## WARNING

### ELECTRICAL OPERATION HAZARD

Failure to follow this warning could result in personal injury, death, or property damage.

Do not use this furnace if any part has been under water. A flood-damaged furnace is extremely dangerous. Attempts to use the furnace can result in fire or explosion. A qualified service agency should be contacted to inspect the furnace and to replace all gas controls, control system parts, or electrical parts that have been wet, or the entire furnace if deemed necessary.



## WARNING

### ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow this warning exactly could result in dangerous operation, serious injury, death or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

- Before servicing, disconnect all electrical power to furnace.
- When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.
- Verify proper operation after servicing



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to [www.ahridirectory.org](http://www.ahridirectory.org).



ISO 9001  
Quality

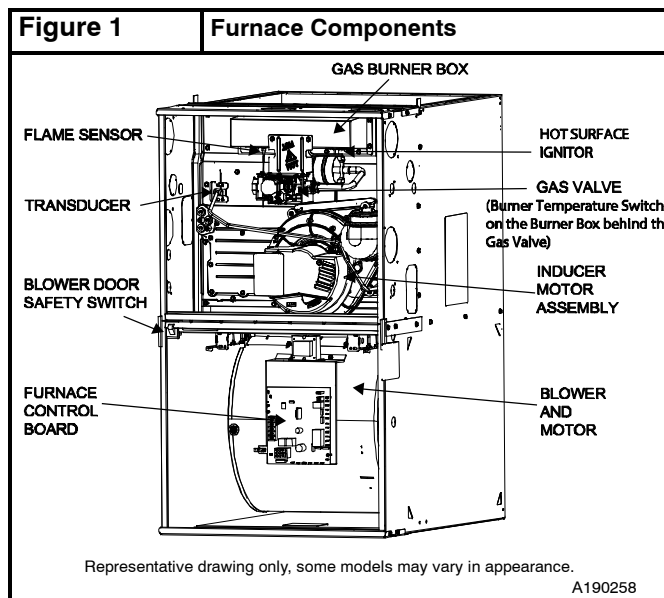


# TABLE OF CONTENTS

FURNACE COMPONENTS ..... 2  
 IMPORTANT FACTS (DO'S AND DON'TS) ..... 2  
 SAFETY CONSIDERATIONS ..... 2  
 BEFORE STARTING YOUR FURNACE ..... 4  
 STARTING YOUR FURNACE ..... 4  
 STEPS FOR STARTING YOUR FURNACE ..... 4  
 SHUTTING DOWN YOUR FURNACE ..... 6  
 MINIMUM AND MAXIMUM TEMPERATURE  
 SETTING FOR YOUR FURNACE ..... 6  
 PERFORMING ROUTINE MAINTENANCE ..... 6  
 FILTERING OUT TROUBLE ..... 7  
 COMBUSTION AREA AND VENT SYSTEM ..... 7  
 WINTERIZATION ..... 8  
 BEFORE YOU REQUEST A "SERVICE CALL" ..... 9  
 MAINTENANCE CHECKLIST ..... 10

## FURNACE COMPONENTS

(Furnace shown in upflow position; may be used in downflow or horizontal orientation or applications. Vent Elbow may be turned to a different position, depending on type of installation)



- DO NOT: Store anything (including trash or debris) near your furnace.
- DO NOT: In any way block or restrict airflow around your furnace.
- DO NOT: In any way block or restrict airflow to your supply air and return air grills.
- DO NOT: Use your furnace room as a broom closet or a place to store any kind of chemical or cleaner.
- DO NOT: Contaminate the air used for combustion of your furnace with any kind of chemical or fumes. This could also cause heat exchangers or components to deteriorate.

**NOTE:** These chemicals or fumes are present in many products around the home, such as: water softener salts, any type of household cleaning product, any type of laundry product, adhesives, paints, varnishes, paint strippers, waxes and plastics, etc.

During remodeling be sure the combustion air is fresh and uncontaminated. If these compounds are burned in your furnace, the heat exchangers may deteriorate.

**NOTE:** The qualified installer or agency must use only factory-authorized replacement parts, kits, and accessories when modifying this product.

This furnace contains safety devices which must be manually reset. If the furnace is left unattended for an extended period of time, have it checked periodically for proper operation. This precaution will prevent problems associated with no heat, such as frozen water pipes, etc. See "Before You Request a Service Call" section in this manual.

**⚠ WARNING**

**FIRE OR EXPLOSION HAZARD**

Failure to follow warnings could result in personal injury, death, or property damage.

Keep insulation and combustible materials clear of furnace and maintain clearances shown on unit clearance label.

Do not keep combustible materials, gasoline, and other flammable liquids or vapors around your furnace.

## SAFETY CONSIDERATIONS

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair, or service heating equipment.

Untrained personnel can perform basic maintenance functions such as cleaning or replacing air filters. All other operations must be performed by trained service personnel. Observe safety precautions in this manual, on tags, and on labels attached to the furnace, and other safety precautions that may apply.

Recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the furnace and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies hazards which could result in personal injury or death. CAUTION is used to identify unsafe practices which would result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

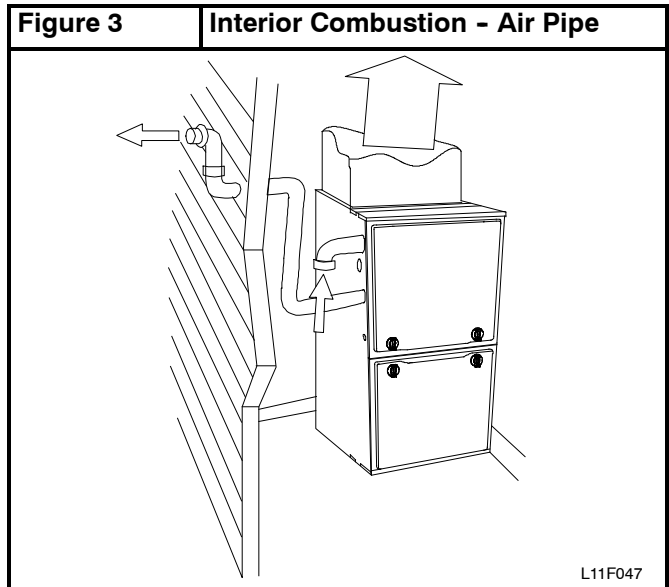
- Your new gas furnace may have been installed in one of two ways, as a direct-vent (2-pipe, **Figure 2**) application or as a

## IMPORTANT FACTS (DO'S AND DON'TS)


- DO: READ AND UNDERSTAND THIS MANUAL.
- DO: Have your furnace and vent system inspected annually by a qualified service technician.
- DO: Inspect your filter monthly and clean or replace when needed.
- DO: Provide adequate airflow to the furnace for efficient combustion and safe ventilation.
- DO: Keep your furnace free and clear of combustible material.
- DO: Keep your furnace free and clear of insulating material. Some materials may be combustible. Examine the furnace area when the furnace is installed or when insulation is added.
- DO NOT: Keep combustible materials, gasoline, and other flammable liquids or vapors around your furnace.
- DO NOT: Cover your furnace in any manner.


non-direct-vent (1-pipe, **Figure 3**) application.

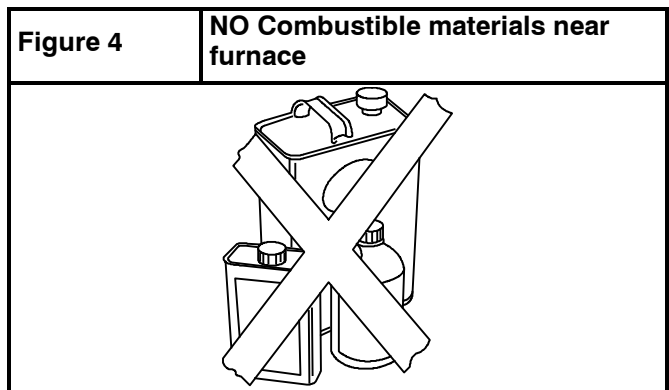
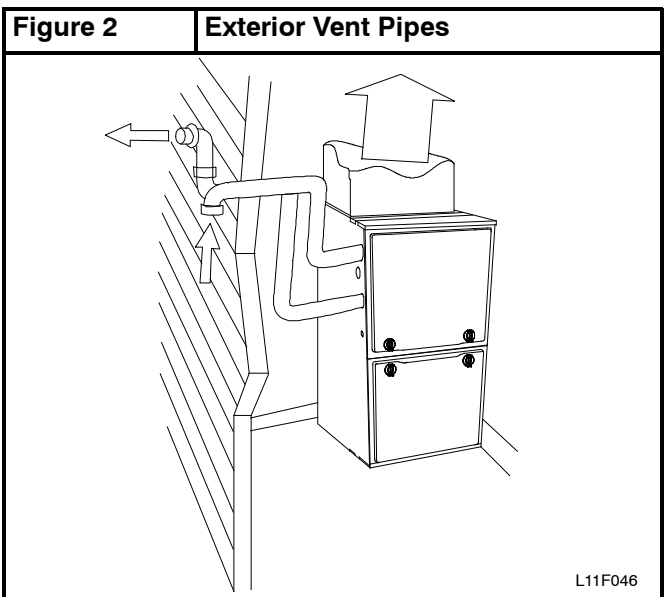
- **In a direct-vent (2-pipe) application**, your furnace uses air from outside the home for combustion and vents flue gas to the outdoors. This type of application will have two pipes running from the furnace to the outdoors (see **Figure 2**). In this application, the vent and air-intake pipes must terminate outside the structure and must not be obstructed in any way. In some cases, the inlet air pipe may be located in an area that has access to outdoor air, such as an attic. In all cases, the outlet vent pipe must be routed to the outdoors. Do not block or obstruct air openings on furnace or spaces around furnace.
- **In a non-direct vent (1-pipe) application**, your furnace uses air from adjacent to the furnace for combustion and vents flue gas to the outdoors. This type of application will have only one pipe running from the furnace to the outdoors. (see **Figure 3**) The other pipe will terminate in the same space as the furnace and is the source of combustion air for your furnace. Therefore, the furnace must not be enclosed in an airtight room or be sealed behind solid doors. It must have adequate airflow for efficient combustion and safe ventilation. Do not obstruct the combustion-air pipe in any way. The vent pipe must terminate outside the structure and must not be obstructed in any way. Do not block or obstruct air openings or space around furnace.



- Keep the area around your furnace clear and free of combustible materials, gasoline, and other flammable liquids and vapors.

	<b>WARNING</b>
<b>CARBON MONOXIDE POISONING HAZARD</b>	
Failure to follow instructions could result in severe personal injury or death due to carbon monoxide poisoning, if combustion products infiltrate into the building.	
Check that all openings in the outside wall around the vent (and air intake) pipe(s) are sealed to prevent infiltration of combustion products into the building.	
Check that furnace vent (and air intake) terminal(s) are not obstructed in any way during all seasons.	

	<b>WARNING</b>
<b>FIRE OR EXPLOSION HAZARD</b>	
Failure to follow this warning could result in personal injury, death, or property damage.	
Do not keep combustible materials, gasoline, and other flammable liquids or vapors around your furnace.	



- Do not cover the furnace, store trash or debris near it, or in any way block the flow of fresh air to the unit.
- In addition to the safety rules above, make sure that the following combustion-air requirements are met for **non-direct vent applications**:
- Combustion air must be clean and uncontaminated with chlorine or fluorine. These compounds are present in many products around the home, such as: water softener salts, laundry bleaches, detergents, adhesives, paints, varnishes, paint strippers, waxes, and plastics.
  - Make sure the combustion air for your furnace does not contain any of these compounds. During remodeling be sure the combustion air is fresh and uncontaminated. If these compounds are burned in your furnace, the heat exchangers may deteriorate.
  - A furnace installed in an attic or other insulated space must be kept free and clear of insulating material. Examine the furnace area when the furnace is installed or when insulation is added. Some insulation materials may be combustible.

## ⚠️ WARNING

### FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Should the gas supply fail to shut off or if overheating occurs, turn off the manual gas valve to the furnace BEFORE turning off the electrical supply and install lockout tag.

This furnace contains SAFETY DEVICES which must be MANUALLY RESET. If the furnace is left unattended for an extended period of time, have it checked periodically for proper operation. This precaution will prevent problems associated with no heat, such as frozen water pipes, etc. See "Before You Request a Service Call" section in this manual.

## ⚠️ CAUTION

### UNIT OPERATION HAZARD

Failure to follow this caution may result in intermittent unit operation.

For proper and safe operation the furnace needs air for combustion and ventilation. Do not block or obstruct air openings on the furnace, air opening to the area in which the furnace is installed, and the space around the furnace.

## BEFORE STARTING YOUR FURNACE

## NOTICE

### IMPORTANT START-UP INFORMATION

When a furnace is started after initial installation, minor smoke and odor may be present as a result of the manufacturing process. Some occupants could be sensitive to minor smoke and odor. It is recommended that doors and windows be open during the first heating cycle.

Examine the furnace installation to determine that:

1. All flue gas carrying areas external to the furnace are clear and free of obstructions.
2. The vent connector is in place, slopes upward and is physically sound without holes or gaps.
3. The return-air duct connection(s) is physically sound, is sealed to the furnace casing, and terminates outside the space containing the furnace.
4. The physical support of the furnace is sound without sagging cracks, gaps, etc. around the base.
5. There are no obvious signs of deterioration of the furnace.

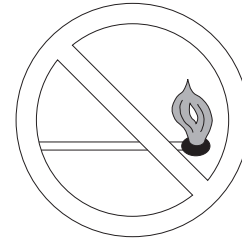
## STARTING YOUR FURNACE

Your furnace uses an automatic, hot surface ignition system to light the burners each time the thermostat signals the furnace to start.

Follow these important safeguards:

- Never attempt to manually light the burners with a match or other source of flame.

Figure 5 Do Not Light Burner with Match

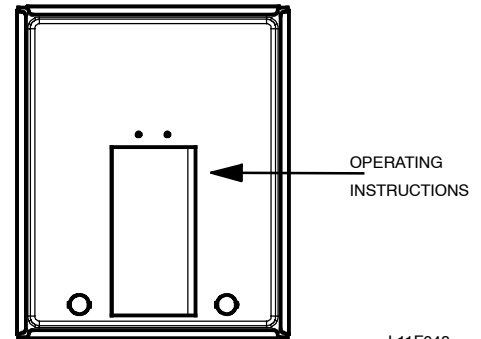


A92319

- Read and follow the operating instructions on the inside of main furnace door (see Figure 6), especially the item that reads as follows:  
"Wait 5 minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information on this furnace label. If you don't smell gas, go to the next step."

Figure 6 Operating Instructions Inside Door

FOR YOUR SAFETY READ BEFORE OPERATING



L11F048

- If a suspected malfunction occurs with your gas control system, such as the burners do not light when they should, refer to the shut down procedures on inside of main furnace door, or in the "Shutting Down Your Furnace" section and call your dealer as soon as possible.
- **CHECK AIR FILTER:** Before attempting to start your furnace, be sure the furnace filter is clean and in place. See "Performing Routine Maintenance" section in this manual. Do not run the furnace without a filter in place. Then proceed as follows:

## STEPS FOR STARTING YOUR FURNACE

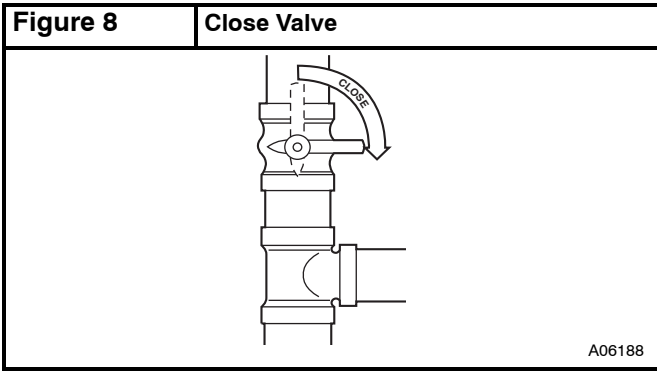
1. Set your room thermostat mode to off and adjust the set point to the lowest temperature setting.

Figure 7 Lowest Temperature Setting

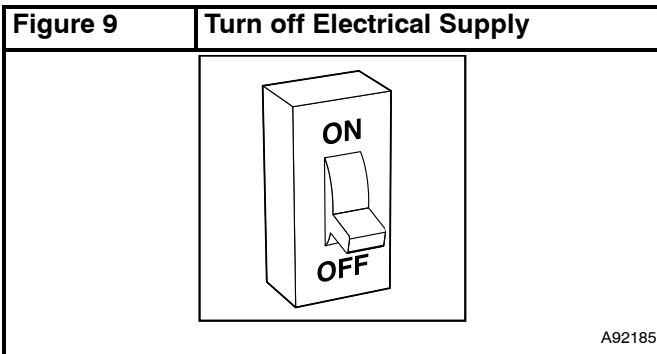


L11F049

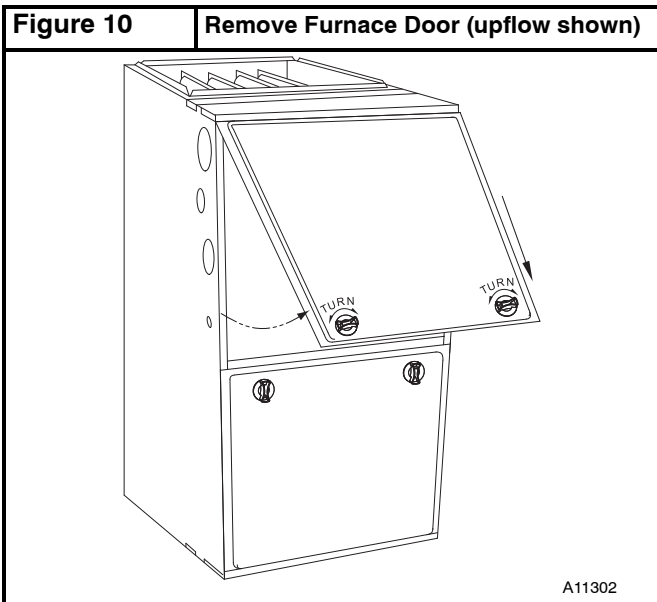
2. Close the external manual gas valve.



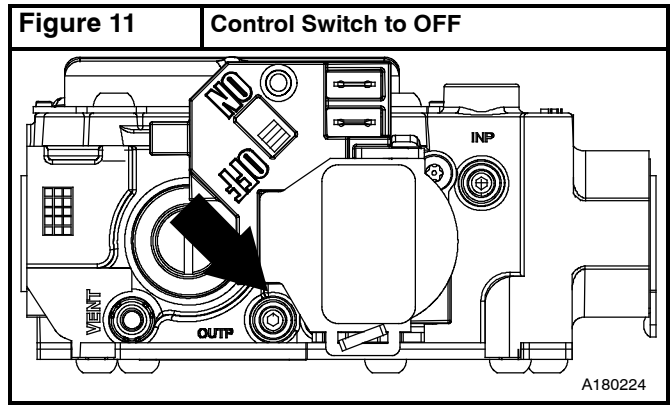
3. Turn OFF electrical supply to the furnace.



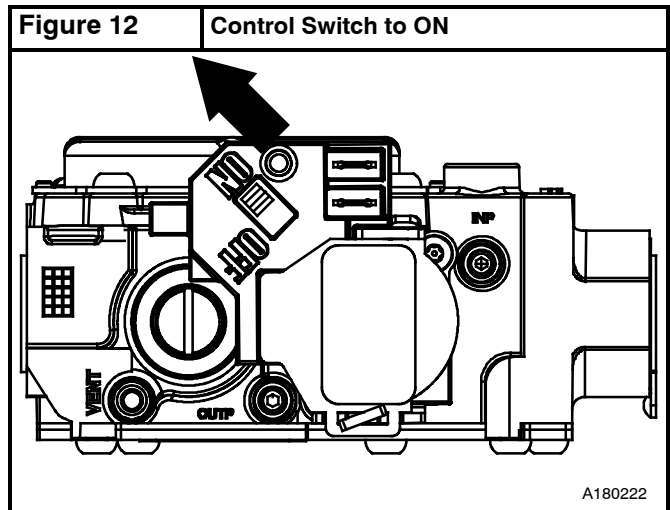
4. Remove the outer door by turning knobs, then pull door forward.



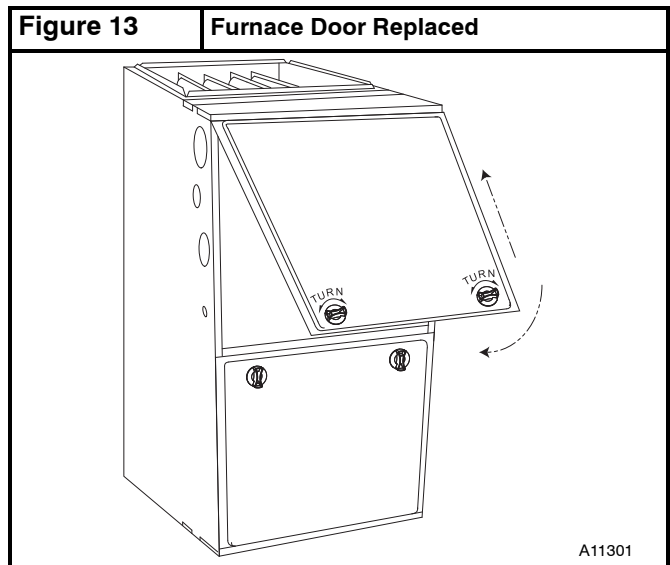
5. Turn the control switch on the gas control to the OFF position and wait 5 minutes. See **Figure 11**. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" on furnace label and follow the safety information on the cover of this manual. If you don't smell gas, go to next step.



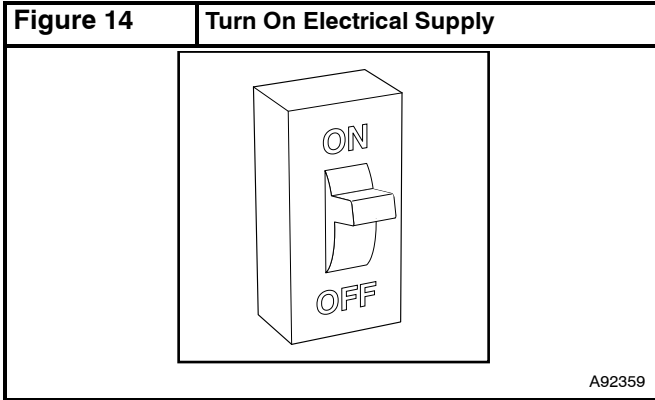
6. Turn the control switch to ON.



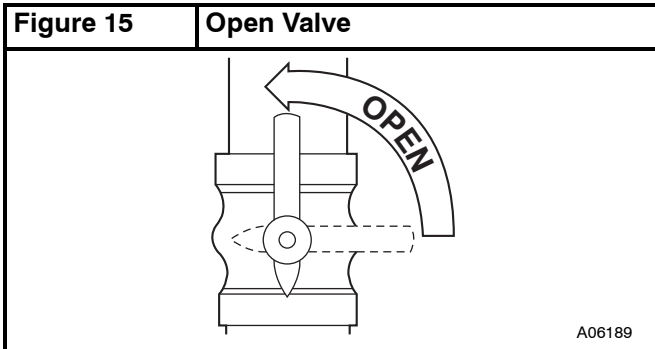
7. Replace the outer door by placing flange inside casing, push door firmly against casing and turn knobs to tighten.



8. Turn ON the electrical supply to the furnace.



9. Open the external manual gas valve.



10. Set the room thermostat mode to “heat” and adjust the setpoint to a temperature slightly above the room temperature. This will automatically signal the furnace to start. The combustion air draft inducer motor will start and the hot surface igniter will energize. When hot, the igniter will have an orange glow.

11. After about seventeen (17) seconds, the gas valve permits gas to flow to the main burners where it is ignited. Hot flames begin to warm the furnace’s heat exchanger. After a time delay of approximately up to sixty (60) seconds the furnace blower will start.

**NOTE:** If the main burners fail to ignite, the furnace control system will go through several more ignition cycles. Then, if burners fail to ignite, the system will lockout. If lockout occurs or the blower does not come on, shut down your furnace and call your dealer for service.

12. Set your thermostat to the temperature that satisfies your comfort requirements.

**SUGGESTION:** Setting the thermostat back a few degrees—and compensating for the difference with warmer clothing—can make a big difference in your fuel consumption on extremely cold days. The few degrees at the top of your thermostat “comfort level” are the most costly degrees to obtain.

When the room temperature drops below the temperature selected on the thermostat, the furnace will switch on automatically. When the room temperature reaches the setting selected on the thermostat, the furnace will be automatically switched off.

**Continuous Fan Operation** - Some thermostats have a “FAN” switch with two (2) selections: AUTO and ON. When thermostat is set on AUTO, the furnace blower cycles on and off, controlled by the thermostat. In ON position, the furnace blower runs continuously except for a forty-two to sixty-two (42-62) second delay at the “call for heat.” Continuous fan

keeps the temperature level in your home more evenly balanced. It also continuously filters the indoor air.

## SHUTTING DOWN YOUR FURNACE

Should you ever suspect a malfunction in your furnace, you will need to turn the furnace off. The following procedures must be followed:

1. Set your room thermostat mode to the lowest temperature setting and set to OFF. (See **Figure 7**)
2. Close the external manual gas valve (See **Figure 8**).
3. Turn off electrical supply to the furnace. (See **Figure 9**)
4. Remove outer furnace door. (See **Figure 10**)
5. Turn the switch on the gas control to the OFF position. (See **Figure 11**)
6. Replace the outer furnace door. (See **Figure 13**)
7. If the furnace is being shut down because of a malfunction, call your dealer as soon as possible.

## MINIMUM AND MAXIMUM TEMPERATURE SETTING FOR YOUR FURNACE

This furnace is designed for minimum continuous return-air temperature of 60°F (15°C) db or intermittent operation down to 55°F (15°C) db such as when used with a night setback thermostat. Return-air temperature must not exceed 80°F (27°C) db. Failure to follow these return-air temperature limits may affect reliability of heat exchangers, motors, and controls.

## PERFORMING ROUTINE MAINTENANCE

With proper maintenance and care, your furnace will operate economically and dependably. Instructions for basic maintenance are found on this and the following pages. However, before beginning maintenance, follow these safety precautions:

### ⚠ WARNING

#### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Turn off electrical power supply to your furnace before removing the access doors to service or perform maintenance.

### ⚠ CAUTION

#### CUT HAZARD

Failure to follow this caution may result in personal injury.

Although special care has been taken to minimize sharp edges, be extremely careful when handling parts or reaching into the furnace. Wear safety glasses, gloves, and appropriate protective clothing.

### ⚠ CAUTION

#### PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Use care when cutting support rods in filters to protect against flying pieces and sharp rod ends. Wear safety glasses, gloves, and appropriate protective clothing.

## FILTERING OUT TROUBLE

### CAUTION

#### UNIT PERFORMANCE HAZARD

Failure to follow this caution may result in product damage.

Never operate your furnace without a filter in place. Doing so may damage the furnace blower motor. An accumulation of dust and lint on internal parts of your furnace can cause a loss of efficiency.

**NOTE:** The manufacturer has specified filters which will enable your furnace to provide lasting comfort and efficiency throughout its life. Contact your dealer to help you choose filters for your furnace that both collect dirt before it enters your furnace, as well as provide a low resistance to circulating air. Avoid filters that report high cleaning efficiencies, but do not allow air to pass easily through them.

A dirty filter will cause excessive stress on the furnace, heat exchanger, and blower motor, and can cause the furnace to overheat and automatically shut down. The furnace filter should be checked every four weeks and cleaned or replaced if necessary.

If installed with disposable media filter, check or replace filter before each heating and cooling season. Replace disposable media filter at least twice a year.

If your furnace filter needs replacing, be sure to use the same size and type of filter that was originally specified.

The air filter for the furnace may be located in a filter cabinet/rack attached to the side or bottom of the furnace. If air filter has been installed in another location, contact your dealer for instructions. To inspect, clean and/or replace the air filter(s), follow these steps:

1. Turn off the electrical supply to the furnace (see **Figure 9**)
2. Remove filter cabinet door/cover.
3. Slide air filter out of filter cabinet/rack. Keep dirty side up (if dirty) to avoid spilling dirt.
4. Inspect the filter. If torn, replace it.

**NOTE:** If the filter is:

- a. a disposable media filter — Do not clean. If dirty, replace only with media filter having the same part number and size. Install with airflow direction arrow pointing towards blower.
  - b. an Electronic Air Cleaner (EAC) — Refer to EAC Owner's Manual for maintenance information.
  - c. a washable filter, wash filter (if dirty) in sink, bathtub, or outside with a garden hose. Always use cold tap water. A mild liquid detergent may be used if necessary. Spray water through filter in the opposite direction of airflow. Allow filter to dry.
5. Reinstall clean air filter.
  6. Replace filter cabinet door.
  7. Turn on electrical supply to furnace (See **Figure 14**).

**NOTE:** If side return ducts are used, two filters may be required in some models. The procedure listed above may be used to remove side filters.

Washable filters may be field modified by cutting filter material and support rods (3) in filters. Alternate sizes and additional filters may be ordered from your dealer.

### Filter Size Information - inch (mm)

FURNACE CASING WIDTH	FILTER SIZE		FILTER TYPE
	SIDE RETURN	BOTTOM RETURN	
14-3/16 (360)	16 x 25 x 3/4 (406 x 635 x 19)	14 x 25 x 3/4 (356 x 635 x 19)	Washable*
17-1/2 (445)	16 x 25 x 3/4 (406 x 635 x 19)	16 x 25 x 3/4 (406 x 635 x 19)	Washable*
21 (533)	16 x 25 x 3/4 (406 x 635 x 19)	20 x 25 x 3/4 (508 x 635 x 19)	Washable*
24-1/2 (622)	16 x 25 x 3/4 (406 x 635 x 19)	24 x 25 x 3/4 (610 x 635 x 19)	Washable*

\* Recommended to maintain air filter face velocity. See Specification for part number.

\*\*Some furnaces may have 2 filters

## COMBUSTION AREA AND VENT SYSTEM

### WARNING

#### CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury or death.

For proper and safe operation the furnace needs air for combustion and ventilation. Do not block or obstruct air openings on the furnace, air opening to the area in which the furnace is installed, the inlet and vent openings on the exterior of home, and the space around the furnace.

Visually inspect the combustion area and vent system before each heating season. Make sure that all PVC pipes leading into the combustion area and vent are free from any cracks and sags. An accumulation of dirt, soot, or rust can mean a loss of efficiency and improper performance.

**NOTE:** If your furnace makes a loud noise when the main burners are ignited, shut down the furnace and call your servicing dealer.

Use your flashlight and follow these steps for inspecting the combustion area and vent system of your furnace:

1. Turn off gas and electrical supply to the furnace and remove the access door. (See **Figure 8** and **Figure 10**)

### WARNING

#### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Turn off electrical power supply to your furnace before removing the access doors to service or perform maintenance.

### WARNING

#### CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury or death.

If dirt, rust, soot, or scale accumulations are found, call your dealer. Do not operate your furnace.

2. Carefully inspect the gas burner area for dirt, rust, or scale.
3. Inspect the combustion-air and vent PVC pipes for sags, holes, cracks, water leaks, blockage or disconnection.

Horizontal vent pipe must slope downward toward the furnace. If open joints or seams, or signs of water leakages are found, call your dealer for service.

4. If your furnace is free of the above conditions, turn on gas and electrical supplies to the furnace. (See **Figure 14** and **Figure 15**)

## ⚠ WARNING

### CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury or death.

If holes are found or if the vent pipe is obstructed or is not connected, toxic fumes can escape into your home. **DO NOT OPERATE YOUR FURNACE.** Call your dealer for service.

5. Start the furnace and observe its operation. If you observe a suspected malfunction, call your servicing dealer.
6. Replace the access door. (See **Figure 13**)

## WINTERIZATION

## ⚠ CAUTION

### UNIT AND PROPERTY OPERATION HAZARD

Failure to follow this caution may result in unit component or property damage.

If the furnace is installed in an unconditioned space where the ambient temperatures may be 32° F (0° C) or lower, freeze protection measures must be taken to prevent minor property or product damage.

## ⚠ CAUTION

### UNIT COMPONENT DAMAGE HAZARD

Failure to follow this caution may result in damage to the furnace and other property damage.

Do not use ethylene glycol (Automotive antifreeze coolant or equivalent). Failure of plastic components may occur.

Since the furnace uses a condensing heat exchanger, some water will accumulate in the unit as a result of the heat transfer process. Therefore, once it has been operated, it cannot be turned off and left off for an extended period of time when temperatures will reach 32° F (0° C) or lower unless winterized. Follow these procedures to winterize your furnace:

1. Obtain propylene glycol (RV/swimming pool antifreeze or equivalent).

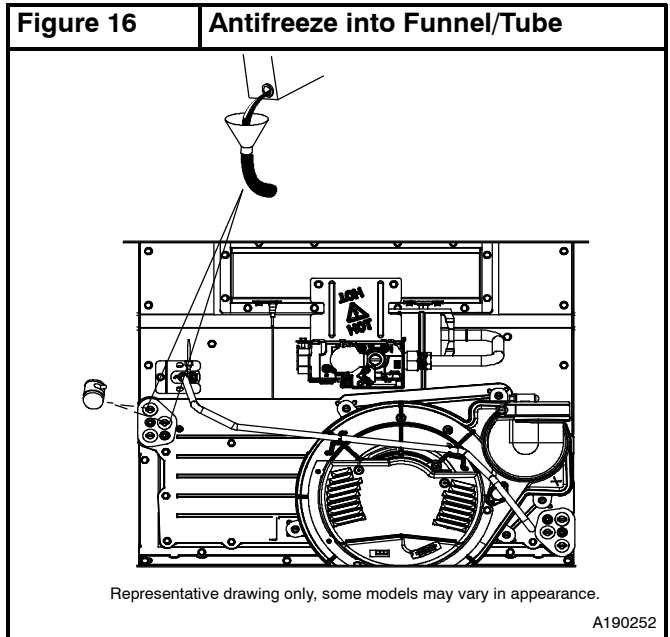
## ⚠ WARNING

### ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Turn off electrical power supply to your furnace before removing the access doors to service or perform maintenance.

2. Turn off gas and electrical supplies to your furnace. See **Figure 8** and **Figure 9**.
3. Remove furnace control compartment door. See **Figure 10**.
4. Remove one of the unused rubber plugs in the port on the collector box opposite the condensate trap. See **Figure 16**.
5. Connect a field supplied 3/8-in. (9.5-mm) ID tube to the open port on the collector box. See **Figure 16**.



6. Insert a field supplied funnel into the tube.
7. Pour one (1) quart of antifreeze solution into the funnel/tube. Antifreeze should run through the inducer housing, overfill condensate trap and flow to an open drain.
8. If a condensate pump is used, check with pump manufacturer to verify pump is safe for use with antifreeze used. Allow pump to start and pump antifreeze to open drain.
9. Remove funnel and tube from collector box.
10. Replace plug in collector box.
11. Remove other plug and repeat steps 4 through 10.
12. Replace main door. See **Figure 13**.
13. When furnace is re-started, flush condensate pump with clear water to check for proper operation before re-starting furnace.
14. Antifreeze need not be removed before re-starting furnace.



## A CHECK-UP CHECKLIST

Your furnace represents an important investment in your family's comfort and your home's value. To keep it performing properly and to prevent future problems, have a trained service specialist give your furnace a professional check-up annually. The following checklist can be used as a guideline to proper service:

- Inspect all flue gas passages, burners, heat exchangers, coupling box(es), and inducer assembly.
- Inspect all combustion-air and vent piping inside structure and pipe terminations outside the structure.
- Check gas pipes leading to and inside of your furnace for leaks.
- Inspect and clean the blower motor and wheel.

**NOTE:** The inducer and blower motors are pre-lubricated and require no additional lubrication. These motors can be identified by the absence of oil ports on each end of the motor.

- Inspect and change or clean air filter(s) if necessary.
- Inspect all supply- and return-air ducts for obstructions, air leaks, and insulation. Remedy any problem when necessary.
- Inspect the return-air duct connection(s) at the furnace to ensure it is physically sound, sealed to the furnace casing, and terminates outside the space containing the furnace.
- Inspect electrical wiring, connections, and components for loose connections.
- Perform an operational checkout to determine whether your furnace is working properly and if it requires adjustments.
- Inspect all condensate drain tubes and condensate trap assembly for leaks. The condensate removal system should be cleaned annually by a qualified service agency. Refer to the Service and Maintenance Instructions Guide for further information.
- Examine the physical support of the furnace. Support should be sound with no cracks, sagging, gaps, etc. around the base.
- Check furnace for any obvious signs of deterioration.
- Ask your servicing dealer for further details about an economical service contract that covers seasonal inspections.

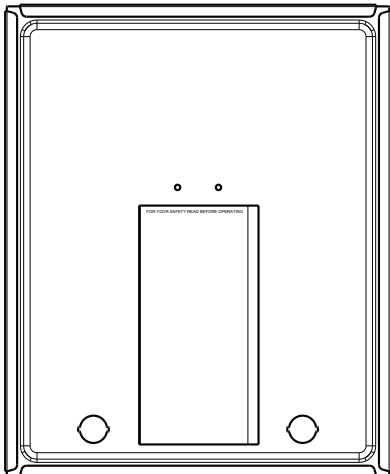


Figure 1 - Information Booklet Location

A11318

## BEFORE YOU REQUEST A “SERVICE CALL”

**If your furnace is not operating or not performing properly, you may save the expense of a service call by checking a few things yourself before calling for service:**

This furnace has a light emitting diode (LED) status code display to aid the installer, service technician, or homeowner while installing or servicing the unit. The LED code can be seen through the view port in the blower access panel.

**NOTE:** Record the LED status code BEFORE removing the blower access door or turning off 115-V power to the furnace. See the information booklet inside the main furnace door for a service code legend (See **Figure 6**)

- Check for sufficient airflow. Check the air filter for dirt. Check for blocked return-air or supply-air grilles. Be sure they are open and unobstructed. If this isn't the cause of the problem, call your servicing dealer. If your furnace isn't operating at all, check the following list for easily solved problems:
- Is your thermostat set above room temperature? Is the HEAT mode selected?
- Is the electrical power supply switch on? Is the blower access door firmly in place? Are any fuses blown? (There is a fuse on the furnace control.) Has a circuit breaker tripped?
- Is the manual shut-off valve in the gas supply pipe leading to the furnace open? Does the lever point in the same direction that the pipe runs (open)? Or is it at a right angle to the pipe (closed)? **NOTE:** Before proceeding with the next checks, turn off the electrical power supply to the furnace. Remove access door.
- Is the switch on the gas valve turned to the ON position? If this or the preceding check shows an interruption in the gas supply, make sure the gas has not been shut off for safety reasons. If nothing else seems to be wrong, follow the start-up procedures found on page 4 of this booklet.
- Check the two manual reset rollout switches located on the burner enclosure. (See **Figure 1**) If the furnace has experienced a high-temperature condition due to inadequate combustion air, these switches will shut off the furnace. Reset the switches by pushing the button on the switch. If the switch trips a second time, turn off the furnace and call for service.

If your furnace still fails to operate, call your servicing dealer. Provide your dealer the model and serial numbers for your furnace. (You should have them recorded on the last page of this booklet.) By knowing exactly which furnace you have, the dealer may be able to offer suggestions over the phone or save valuable time through knowledgeable preparation for the service call.

### NOTE TO EQUIPMENT OWNER:

For your convenience, please record the model and serial numbers of your new equipment in the spaces provided. This information, along with the installation data and dealer contact information will be helpful should your system require maintenance or service.

**FURNACE**

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

**AIR CONDITIONER OR HEAT PUMP**

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

**INDOOR COIL (Furnace Coil or Fan Coil)**

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

**INSTALLATION INFORMATION:**

Date Installed \_\_\_\_\_

**DEALERSHIP CONTACT INFORMATION:**

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Phone Number \_\_\_\_\_

Technician Name \_\_\_\_\_

**NOTE TO INSTALLER:**

This manual must be left with the equipment owner.

**Monthly maintenance items may be performed by the homeowner. All other service and maintenance items MUST be performed by qualified service technicians**

### MAINTENANCE CHECKLIST

In addition to the type of routine maintenance you might be willing to perform; your furnace should be inspected regularly by a properly trained service technician.

You should work with your dealer or service technician to assure your inspection includes the following at a minimum.

DESCRIPTION	INSPECTION INTERVAL		
	Monthly	Semi-Annually	Annually
<b>Furnace specific, external items:</b>			
Clean or replace air filters.	X		
Inspect cabinet for signs of damage.	X		
Inspect electrical disconnect for proper function. Repair or replace as necessary.		X	
Inspect external wiring for damage.		X	
Inspect gas supply line and manual shut-off for leaks.			X
<b>Furnace specific, internal items:</b>			
Inspect and clean blower assembly (includes blower housing, blower wheel and motor).		X	
Inspect gas valve and check for proper manifold gas pressure Adjust as needed.			X
Inspect ignition system and safety controls. Clean and adjust as needed.			X
Inspect control box, associated controls, wiring and connections.			X
Check combustion blower housing for lint and debris and clean as necessary.			X
Inspect burner assembly exterior for signs of damage.			X
Inspect heat exchanger - clean as needed.			X
Inspect flue system—check for proper attachment to the furnace, any dislocated sections, and for signs of damage. Replace if necessary.			X
<b>System:</b>			
Inspect airflow system (ductwork)—check for leaks and repair as needed.		X	
Inspect evaporator coil, drain pan and condensate drain lines as applicable. Clean as needed.		X	

This list may not include all maintenance items, and inspection interval times may vary depending on operational conditions of the furnace.

**Ask your servicing dealer for further details about an economical service contract that covers seasonal inspections.**