



TRANE®

Chas Roberts

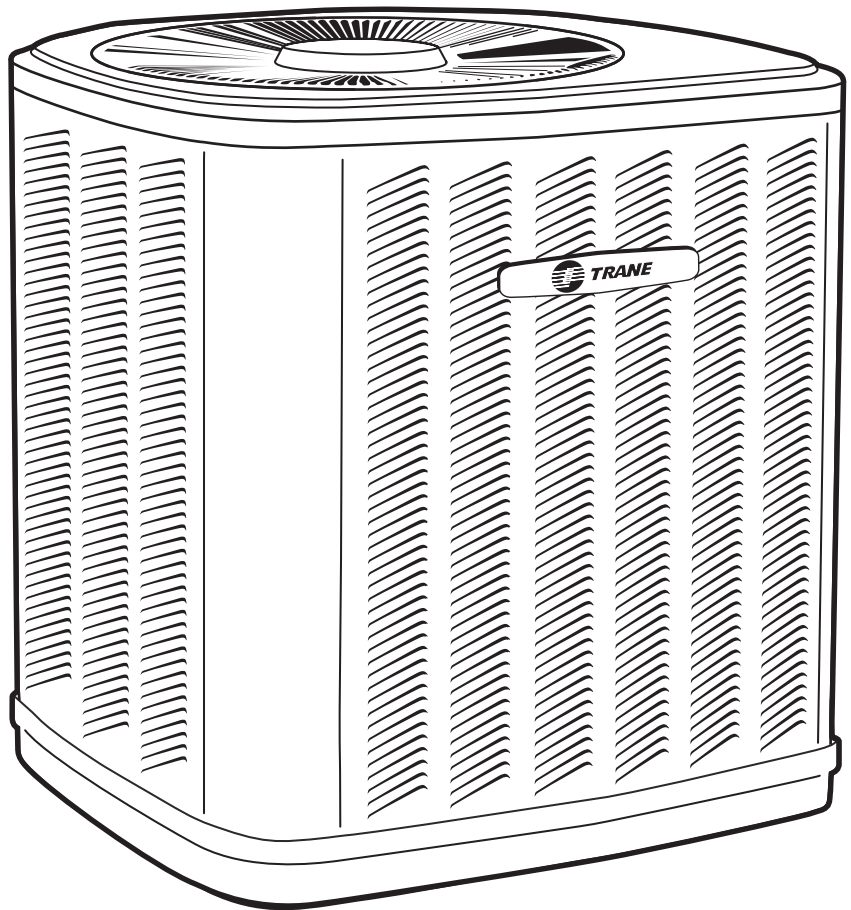
AIR CONDITIONING & HEATING

(602) 943-3426 or (520) 292-6858

www.ChasRoberts.com

Use and Care

Central Air Conditioning and Gas Furnace



22-5200-03-0905 (EN)

Important Facts You Should Know About Your Gas Furnace and Air Conditioner

ChasRoberts

AIR CONDITIONING & HEATING

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Gas Furnace

- **If You Smell Gas** – Call your gas company, at once, from a neighbor's phone. DO NOT touch any electrical switches or light any flames.
- **If Smoke Appears – Don't be alarmed, THIS IS NORMAL**, the first time the furnace is started. Your smoke alarms may sound, but they will reset when the smoke clears. The reason this happens is because the factory applies a layer of oil inside the furnace to protect it during shipment. The burners will burn away this oil the first time the furnace is started. The furnace will smoke this one time only.
- **Before you call for service, check these simple items first:**
 - Is the furnace plugged in and are the breakers and disconnects turned on?
 - Is the thermostat set above the room temperature?
 - Is the thermostat switch set in the heat position:
 - Is the gas line connected to the furnace? If not, call you builder or plumbing contractor.
 - Is the gas manual shut off valve open? The gas valve handle is located just outside the furnace and the handle should be turned parallel with the gas pipe to be on. If it is turned at a right angle, it is off.
 - Is the air filter dirty or full of lint? A dirty filter will block needed air flow to the furnace and shut it down prematurely.
- If you have checked all these things, and the furnace still does not operate, CALL your builder or Chas Roberts Air Conditioning.
- Important, more detailed information on your furnace should be reviewed in your homeowner's operation and maintenance manual.

Air Conditioner

- During the cooling season, your gas furnace provides air flow for your air conditioning.
- **Do Not** turn the air conditioning system off. Part-time cooling is poor economy. If the system is left off during the morning, the home will soak up heat and be more difficult to cool in the afternoon. You can actually save money by letting the thermostat determine when cooling is needed.
- During the hot, dry seasons, we recommend keeping the air conditioner blower on continuously. The air conditioning unit cools more evenly when the blower switch is in the ON position. The blower provides refreshing air movement and even temperatures throughout the home. The blower also circulates air through the filter, which helps remove dust, lint and other pollutants more efficiently.
- During the more humid monsoon season, we recommend switching the blower to the AUTO position to help dehumidify the air more efficiently. Check you condensate drain to make sure the moisture being removed from the house is draining properly. The bottom drain outside your house should be dripping and the emergency overflow drain above should be dry.
- Shades, drapes, shutters, or screens should be installed on windows that are exposed to direct sunlight. Also, plant a tress or put up a canopy to protect your windows from the direct sun.
- For cooling and heating . . . **Leave your thermostat alone**. When you have found a temperature that you prefer, it is best to leave the thermostat at that setting.
- **Clean or replace the filters frequently**. Dirty filters will lower performance and efficiency of your cooling. The filters are usually located at the return grille or at the indoor section of your unit.



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Optional Extended Warranty

Optional Extended Warranties are available from the Manufacturer. The Extended Warranty can be purchased from your dealer and is in effect when you have received an Extended Warranty Certificate from Trane. No additional warranty, either written or implied, is extended by the Manufacturer without an Extended Warranty Certificate from Trane. If you do not receive your Extended Warranty Certificate within 45 days of purchase, please call 800-554-6413. For additional information regarding the Extended Warranty, see page 5.

LIMITED WARRANTY

TRANE CENTRAL AIR CONDITIONER
2TTB3, 2TTB2, 2TTB0 AND TTB
 Models Less Than 20 Tons for Residential Use*
 (Parts Only)

This limited warranty is extended by Trane, a business of American Standard, Inc., to the original purchaser and to any succeeding owner of the real property to which the Trane Central Air Conditioner is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada.

If any part of your Trane Central Air Conditioner fails because of a manufacturing defect within five years from the date of original purchase, Trane will furnish without charge the required replacement part. Any local transportation, related service labor, diagnosis calls, refrigerant and related items are not included.

If the sealed motor-compressor fails or if the outdoor coil should become defective, either or both events occurring because of a manufacturing defect within five years from the date of original purchase, Trane will furnish without charge the required replacement compressor and/or outdoor coil. Any local transportation, related service labor, diagnosis calls, refrigerant and related items are not included.

This limited warranty does not cover failure of your Trane Central Air Conditioner if it is damaged while in your possession, damage caused by unreasonable use of the Trane Central Air Conditioner and/or damage from failure to properly maintain the Trane Central Air Conditioner as set forth in the Use and Care manual (see Proper Maintenance section).

This limited warranty applies to product installed on or after 10/1/2001 where product is manufactured after 1/1/2000. This limited warranty is not retroactive to any installations prior to 10/1/2001 or on product produced prior to 2000.

THE LIMITED WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING BUT NOT SPECIFICALLY LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, AND IN NO EVENT SHALL WARRANTOR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied limited warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization through an authorized service organization in your area listed in the yellow pages. If you wish further help or information concerning this limited warranty, contact:

Trane
 a business of American Standard, Inc.
 P O Box 9010, Tyler, TX 75711-9010
 Attention: Manager, After Sales Support
 Or visit our web site: www.trane.com/residential
 TW-389-3805

* This limited warranty is for residential usage of this equipment and not applicable when this equipment is used for a commercial application. A commercial use is any application where the end purchaser uses the product for other than personal, family or household purposes.

How it works to keep you comfortable

Congratulations on the purchase of your new Trane air conditioner. Your air conditioner is designed to work with a matched indoor unit creating a system that delivers years of dependable service and performance.

Your air conditioning system cools, filters, and dehumidifies your home.

As the air conditioning system circulates the air, it also filters it. The air conditioning system also extracts excess moisture from the air inside your home, thus helping to control humidity in muggy summer months.

Acquaint yourself with your new system by spending just a few minutes with this booklet. Learn about the operation of your system and the small amount of maintenance it takes to keep it operating at peak efficiency.

Proper maintenance for maximum efficiency

A central air conditioner is not a household appliance. It's a self-contained system that requires professional maintenance and repair.

That's why attempts at "do-it-yourself" repairs on an in-warranty unit may void the remainder of your warranty.

Other than performing the simple maintenance recommended in this manual, you should not attempt to make any adjustments to your central air conditioning system. Your dealer will be able to take care of any questions or problems you may have.

CAUTION

To prevent injury, death, or property damage, read and follow all instructions and warnings, including labels shipped with or attached to unit before operating your new air conditioning system.

WARNING

Disconnect all electrical power to the indoor air handler or furnace before removing access panels to perform any maintenance. Disconnect power to both the indoor and outdoor units. NOTE: There may be more than one electrical disconnect switch. Electric shock can cause personal injury or death.

CAUTION

Although special care has been taken to minimize sharp edges in the construction of your unit, be extremely careful when handling parts or reaching into the unit.

Help ensure top efficiency by cleaning or replacing the filter monthly.*

When the air conditioner circulates and filters the air in your home, dust and dirt particles build up on the filter. Excessive accumulation can block the airflow, forcing the unit to work harder to maintain desired temperatures. And the harder your unit works, the more energy it uses.

Clean or replace your filter twice a month during seasons when the unit runs more often.

When replacing your filter(s), always use the same size and type that was originally supplied. Filters are available from your dealer.

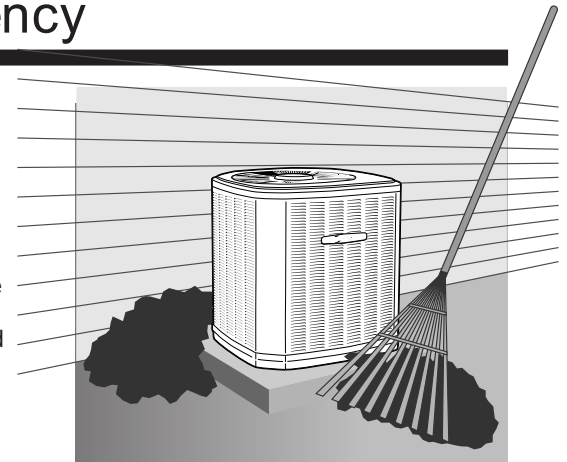
Where disposable filters are used, they must be replaced every month with the same size as originally supplied.

How to remove your filter.*

Ask your Trane dealer where the filter is located in your system and how to service it.

Just be sure to replace it with the arrows pointing in the direction of the airflow.

* Before removing the filter, see the owners manual furnished with the indoor unit.



Efficiency can be maintained by keeping outdoor unit clear of debris, leaves and shrubbery.

Efficient operation of your air conditioner depends on the free flow of air over the coil. Anything that blocks the airflow, causes the compressor to work harder to move the warm air out of your house.

To avoid overworking your unit, do not plant flowers or shrubbery right next to it. Also, make sure that nothing is stacked against the sides of the unit or draped over it.

Making sure your outdoor unit is kept clear at all times helps it work at peak efficiency.



Proper maintenance (cont.)

Keep your air conditioner looking new for years.

Clean the enamel finish of your air conditioner with soap and water. For stubborn grease spots, use a household detergent. Do not use lacquer thinner or other synthetic solvents as they may damage the finish.

Call your dealer for additional routine maintenance

Your air conditioning system should be inspected regularly by a properly trained service technician. The inspection (preferably twice each year, but at least once a year) should include the following:

- Routine inspection of air filter(s). Replacement or cleaning as required.
- Inspection and cleaning of the blower wheel, housing, and motor as required.

CAUTION

Condensate drains should be checked and cleaned periodically to assure condensate can drain freely from coil to drain. If condensate cannot drain freely, water damage could occur.

Inspection and, if required, cleaning of indoor and outdoor coils.

Inspection of the indoor coil drain pan, plus the primary and secondary drain lines. If supplied, the auxiliary drain pan and line should be inspected at this time. Service should include cleaning, if required.

A check of all electrical wiring and connections.

A check for secure physical connections of individual components within units.

WARNING

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer or service agency for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product.

Operational check for the air conditioning system to determine actual working condition. Necessary repair and/or adjustment should be performed at this time.

Your servicing dealer may offer an economical service or preventative maintenance agreement that covers seasonal inspections. Ask your dealer for further details.

How to operate your system for peak performance

Setting the temperature

Place the system switch on COOL, and the fan switch on AUTO. Then set the temperature by using the indicator on the thermostat* control.

Now your system will cool your house whenever the indoor temperature climbs above the thermostat setting. It will shut off when the desired room temperature is reached.

In winter, it works the same way. When the system switch is on HEAT, the system will operate whenever the room temperature falls below the temperature setting. Once the desired temperature is reached, the system will shut off.

Save energy with an electronic programmable thermostat.*

Program the thermostat for the temperatures that meet your comfort level. The Trane electronic programmable thermostat has up to four setup or setback periods each day, plus week-end and vacation programs.

* Accessory, purchased separately. Carefully read the accompanying thermostat manual for complete operating instructions.

Let the thermostat do its job.

Your system will perform most efficiently when you let the thermostat control it. Turning the system on and off manually is usually much less efficient. So let the thermostat do its job.

We recommend keeping the temperature setting at 78°F for cooling, 68°F for heating. However, you can select the temperature that meets your comfort level.

The point is, once you've set the thermostat, keep subsequent adjustments to a minimum.

When you're going to be away from home for a few days, or when outdoor temperatures are moderate, don't let the air conditioner run unnecessarily. Lower the thermostat to 55°F in the winter. And raise it to 85°F in summer. Then when you return, or when temperature conditions dictate, you can reset the system and it will resume making your home comfortable again.

Never stop the system by shutting off the main power.

If the main power is ever disconnected for more than three hours, turn off the

thermostat. Then wait for at least three more hours after the power has been restored before turning the thermostat back on. Failure to follow this procedure could result in damage to your system.

CAUTION

If heating system is not operational during the cold weather months, provisions must be taken to prevent freeze-up of all water pipes and water receptacles. This is very important during times of vacancy.

How to help reduce summer humidity.

In summer, your air conditioner does more than cool the air — it helps remove the excess moisture, that can make the inside of your home feel muggy. When removing this moisture your system must work harder than when simply cooling the air.

That's why kitchens, bathrooms and utility rooms should have vents and exhaust fans. These devices help prevent accumulation of moisture throughout the rest of the house so your air conditioner works less to keep you comfortable.

The Problem Solver

Before you call for service, check the following:

Problem	Possible cause	Remedy
Insufficient heating or cooling	a. dirty filters b. air not circulating freely c. blocked outdoor coil	a. clean or replace b. check supply registers and return grills for blockage c. clear away leaves or other debris
Failure to operate	a. power off b. open circuit breaker or burned-out fuses c. improperly adjusted thermostat	a. make sure main switch is in ON position b. reset circuit breaker, or replace burned-out fuses c. check setting, adjust thermostat
No Heating or Cooling – Blower does not operate	Blower door removed or ajar	Close door securely to restore power to blower
Unusual Noise		Call your local servicer

Reduce the burden of unexpected repair bills with a Trane Extended Warranty.

Trane offers the finest quality products and manufacturer's warranties on the market. But, like all good things, the Trane-provided limited warranty on your new comfort equipment will come to an end. To keep you protected, Trane offers the Extended Warranty Program. It picks up right where your Trane limited warranty leaves off. And, it offers years and years of reliable protection at a low cost. Ask your dealer for program details.

The Trane Extended Warranty provides:

1. The opportunity to supplement your Limited Warranty.
2. Coverage that may include parts only or parts and labor for the duration of the agreement. Be certain you read the Extended Warranty for complete details and exclusions.
3. Service work performed by servicers knowledgeable of the operation of Trane equipment.

Extra Energy Tips

Insulation

1. Make sure your home is properly insulated. This is the single most important step in conserving energy. Thermal insulation should be specified in terms of thermal resistance (R-values). R-30 (10") is recommended for ceilings, R-11 (3-1/2) for exterior walls and floors over unheated areas. In colder climates, consider additional insulation.
2. Infiltration of humid outside air is your heating and cooling system's worst enemy — it could account for 15 to 30% of air conditioning energy requirements. Find the places where air can sneak into the home and plug them with caulking, weather-stripping or plastic. Also, weather-strip and caulk around all entrance doors and windows.
3. Cut heat transfer through your windows by 40 to 50% with double glazing (two panes of glass separated by a sealed air space) and low-e glass.
4. Use wood- or metal-frame storm windows even if single-glazed windows are high quality. The extra layer of glass and the layer

of still air will cut heat transfer considerably.

5. Install storm doors at all entrances to your house.
6. Keep all windows and doors closed.
7. Remember that by increasing the glass area, you increase the amount of heat added in summer and lost in winter.
8. Make sure fireplaces have tight-fitting dampers which can be closed when the fireplace is not in use.
9. Invest in a humidifier to conserve energy in winter. The air in your home won't be as dry, so you stay comfortable at a lower temperature setting.

Heating

10. Locate the thermostat on an inside wall away from windows and doors.
11. Set the thermostat as low as comfort permits. Each degree over 68°F can add 3% to the amount of energy needed for heating.
12. People generate heat. So lower the thermostat a degree or two when expecting a large group of guests.

Cooling

13. Set the thermostat as high as comfort will permit.
14. Make sure attics are adequately ventilated to relieve heat buildup. If necessary, improve airflow by adding or enlarging vents.
15. When building a new house or renovating an old one, choose light-colored roof shingles to reflect more of the sun's heat.
16. During moderate weather, don't use the air conditioner unnecessarily.
17. Draw blinds or drapes to block the sunlight during the hottest part of the day.
18. Install awnings over windows exposed to direct sunlight.
19. In the cooling season, don't run kitchen and bath exhaust fans longer than necessary.
20. Don't place lamps, TV sets or other heat producing devices beneath a wall-mounted thermostat. Rising heat from the equipment may cause the air conditioner system to over cool your house.



Important Service Information

It's always a good idea to keep records — it will save you time and money. If it's necessary to have your air conditioner repaired, the serviceman will want to know if your unit is still under Warranty. Take a few minutes to record the following information here:

Outdoor Model Number _____

Indoor Model Number _____

Thermostat Model Number _____

Date of Purchase _____

Dealer _____

Service Information

Call your installing dealer if the unit is inoperative. Before you call, always check the following to be sure service is required:

- a. Be sure the main switch that supplies power to the unit is in the ON position.
- b. Replace any burned-out fuses or reset circuit breakers.
- c. Be sure the thermostat is properly set.

Service Phone _____



(602) 943-3426

(520) 292-6858

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Phoenix, AZ 85021-1992

4065 East Illinois Street
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Trane has a policy of continuous product and product data improvement and it reserves the right to change design and specifications without notice.

Chas Roberts

AIR CONDITIONING & HEATING

The Most Comfortable Call You Can Make!

Chas Roberts Air Conditioning is proud to be a family owned and operated business, serving Arizona since 1942.

As your HVAC system Installer, we can provide you with services to meet all of your Heating and Air Conditioning needs after you have taken possession of your new home:

- Sales
- Service & Repair
- Extended Warranties
- Preventative Maintenance

We are available to speak with you Monday-Friday 7am to 8pm, Saturday 7am to 5pm, and Sunday 9am to 4pm with extended hours during the summer.

Please call, or visit our website, with all of your HVAC questions or concerns.

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www.ChasRoberts.com

User's Information Guide

Gas Furnaces — Non-Condensing Fan Assisted Combustion System Upflow / Horizontal and Downflow / Horizontal

WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- 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.
 - 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.
- DO NOT RELY ON SMELL ALONE TO DETECT LEAKS. DUE TO VARIOUS FACTORS, YOU MAY NOT BE ABLE TO SMELL FUEL GASES.
 - U.L. recognized fuel gas and CO detectors are recommended in all applications, and their installation should be in accordance with the manufacturer's recommendations and/or local laws, rules, regulations, or customs.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING

DO NOT USE THIS UNIT IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL WHICH HAS BEEN UNDERWATER.

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GENERAL INFORMATION

Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are safety alert words. **DANGER** indicates the most serious hazards which **will** result in severe personal injury or death. **WARNING** indicates hazards which **could** result in personal injury or death. **CAUTION** is used to indicate unsafe practices which could result in minor injury or property damage.

IMPORTANT FACTS

The flow of combustion and ventilating air must not be obstructed from reaching the furnace. Air openings provided in the casing of the furnace must be kept free of obstructions which would restrict airflow, thereby affecting efficiency and safe operation of your furnace.

Also, air openings provided to the area in which the furnace is installed and the space around the furnace shall not be blocked or obstructed. Keep this in mind should you choose to remodel the area which contains your furnace. If additional insulation is added after the furnace is installed, the area around the furnace must be inspected to ensure it is free and clear of insulation. If this furnace is installed in an attic or other insulated space it must be kept free and clear of all insulating materials as some insulating materials are combustible.

Furnaces must have air for proper performance. There must be a free flow of fresh air sufficient for efficient combustion and safe ventilation of your furnace.

The combustion air for your furnace must be fresh uncontaminated air. Paints, varnishes, laundry bleaches, detergents, many household cleaners, water softening salts, adhesives, and all such products release fumes containing compounds which could lead to early heat exchanger and vent system deterioration. Do not store these types of products near your furnace.

User's Information

Never store gasoline, combustible materials, or other flammable liquids or vapors near your furnace.

Carbon monoxide, fire or smoke can cause serious bodily injury, death, and/or property damage.

A variety of potential sources of carbon monoxide can be found in a building or dwelling such as gas-fired clothes dryers, gas cooking stoves, water heaters, furnaces and fireplaces. The U.S. Consumer Product Safety Commission recommends that users of gas-burning appliances install carbon monoxide detectors as well as fire and smoke detectors, listed by a nationally recognized agency (e.g. Underwriters Laboratories or International Approval Services), to help alert dwelling occupants of the presence of fire, smoke or unsafe levels of carbon monoxide.

NOTE:

The manufacturer of your furnace does not test any detectors and makes no representations regarding any brand or type of detector.

⚠ WARNING

BODILY INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS, FAST MOVING FANS, AND COMBUSTIBLE GAS. FOR PROTECTION FROM THESE INHERENT HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED AND THE MAIN GAS VALVE MUST BE TURNED OFF.

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 and replacing filters. All other operations must be performed by trained service personnel.

Parts and controls of this furnace are unique. Should service or modification be required, be sure your servicer uses only factory authorized parts, kits, or accessories for this furnace.

If you experience a problem with the operation of your furnace, check the "Problem Solver" section of this manual before you call for a possibly unneeded service call.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to the installation instructions provided with the furnace and this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

To Start the Furnace

Lighting instructions.

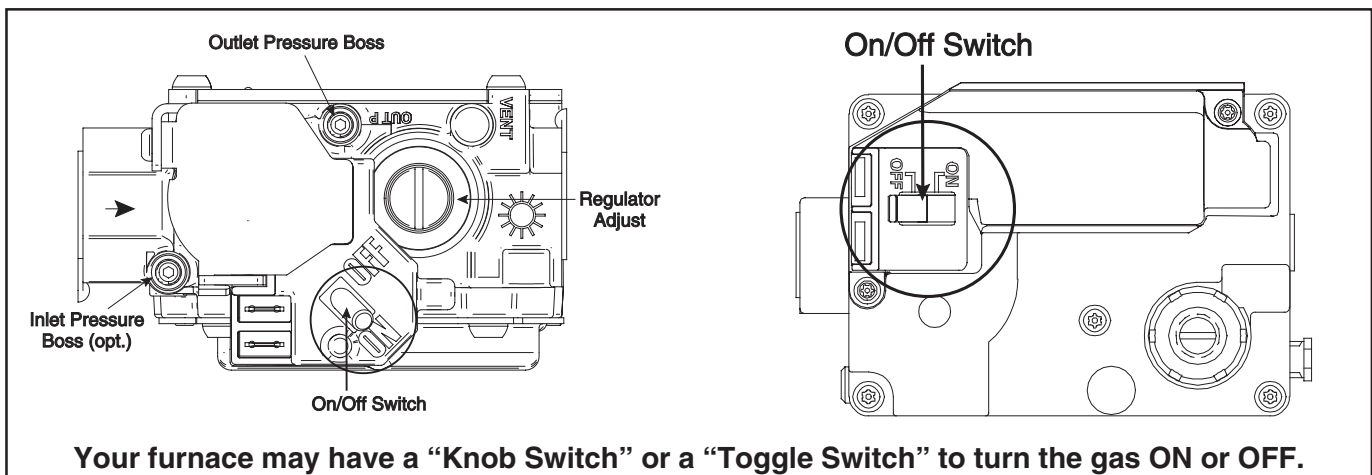
Your furnace does not use a continuously burning pilot flame. Therefore, manually lighting your furnace is not required. Your furnace is equipped with an automatic ignition system. It uses a hot surface ignition device that automatically lights the burners each time the thermostat signals the furnace to start.

⚠ WARNING

Do not attempt to manually light the furnace.

1. Please read all safety information in this book before operating furnace.
2. Set thermostat to lowest setting. Turn off all electric power to furnace.
3. Remove the furnace front panel to gain access to the main gas valve.

4. Turn gas cock knob clockwise or the toggle switch located on the main gas valve inside the unit to "OFF" position (see illustration on this page). If external gas cock is used, turn to "OFF" position (see illustration on next page). Allow 5 minutes for any gas within the unit to escape. LP gas being heavier than air may require forced ventilation. If you smell gas STOP! Follow the "What To Do If You Smell Gas" instructions on the front cover of this book. If you don't smell gas, go to next step.
5. Turn gas cock knob counterclockwise or the toggle switch to "ON" marker (see illustration on this page).
6. Replace the furnace front access panel.
7. Turn on main electrical supply and set thermostat to desired setting. Combustion blower will start and ignition device will start to heat up. After approximately 15 seconds main gas valve will open and burners will ignite.



User's Information

8. When thermostat is satisfied, main burners will extinguish.
9. If main burners fail to ignite, lower thermostat setting or disconnect electrical supply, wait 5 minutes, raise thermostat setting above indicated temperature.
10. If furnace will not light, turn "OFF" all gas and electricity to unit and call servicer or gas supplier.

For complete shutdown.

Turn gas cock knob on main gas valve to "OFF" position.
Disconnect electrical supply to unit.

⚠ CAUTION

If this is done during the cold weather months, provisions must be taken to prevent freeze-up of all water pipes and water receptacles.

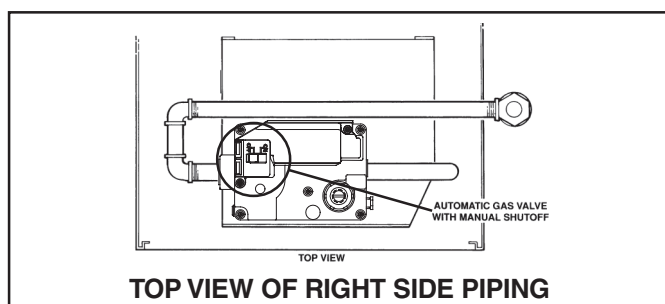
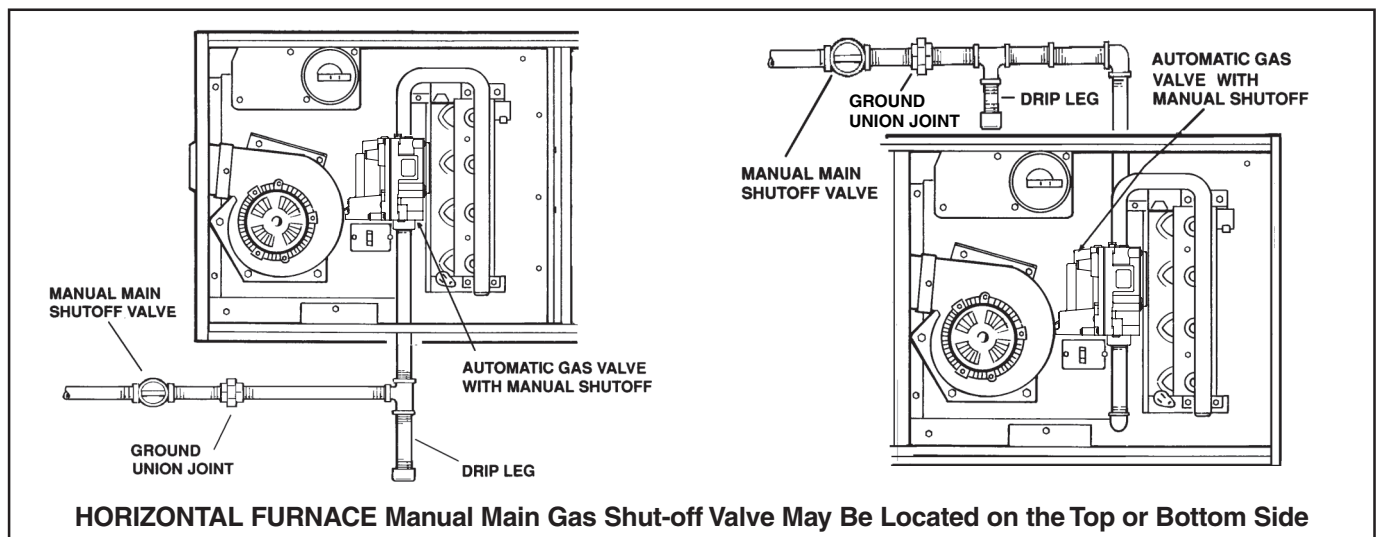
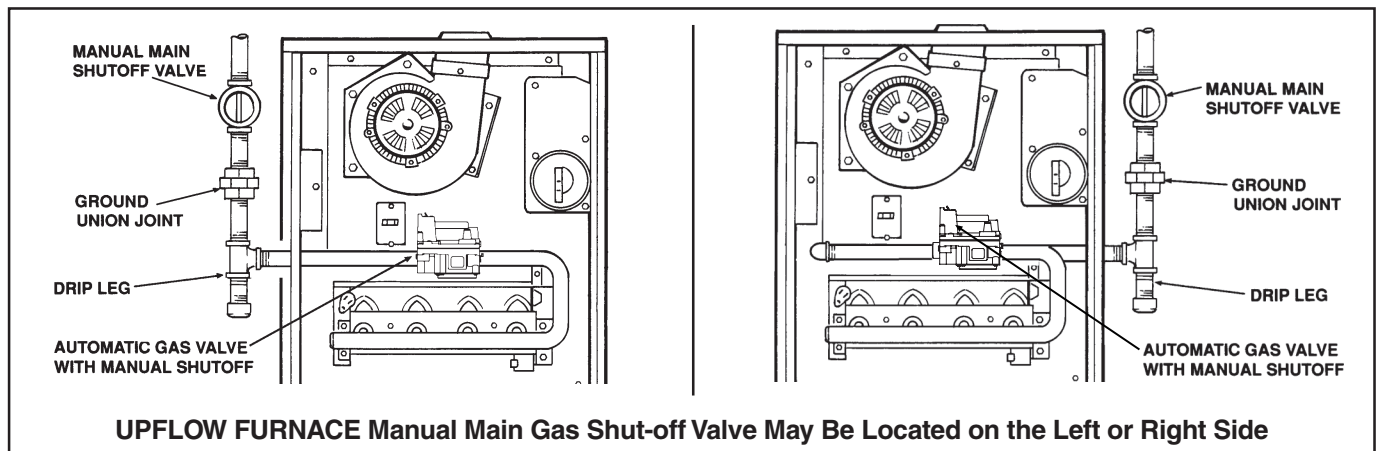
Whenever your house is to be vacant, arrange to have someone inspect your house for proper temperature. If your furnace should fail to operate, damage could result, such as frozen water pipes.

Flame Roll-out Device.

All models are equipped with a fusible link located near the burners. In case of flame roll-out, the link will open (melt) and cause the circuit to open which shuts off all flow of gas.

NOTE THE LOCATION OF THE MANUAL MAIN GAS SHUTOFF VALVE FOR YOUR FURNACE.

Have your installer or servicer show you the location if you have any questions.



⚠ WARNING

Do not use this unit if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control which has been underwater.

User's Information

Proper Maintenance Reduces Energy Use

A clean filter saves money.

When the furnace circulates and filters the air in your home, dust and dirt particles build up on the filter. Excessive accumulation can block the airflow, forcing the unit to work harder to maintain desired temperatures.

And the harder your unit has to work, the more energy it uses. So you pay more any time your system is running with a dirty filter.

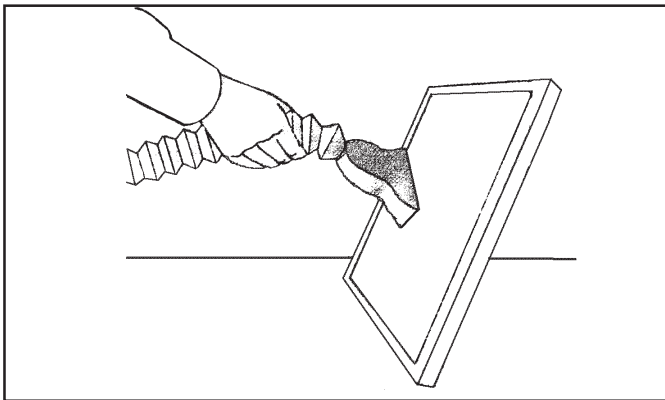
⚠ CAUTION

Never operate your unit for either heating or cooling with filters removed.

Help ensure top efficiency by cleaning the filter once a month. Clean it twice a month during seasons when the unit runs more often.

You can clean the filter with a vacuum, OR you can wash it with a household detergent.

Both methods are quick and easy, and guaranteed to improve the performance of your system.



Your filter may or may not be framed.

Replacing your filter.

When replacing your furnace filters, always use high velocity type which are the same size as originally supplied. Filters are available from your dealer.

Where disposable filters are used, they must be a high velocity type which are the same size as originally supplied.

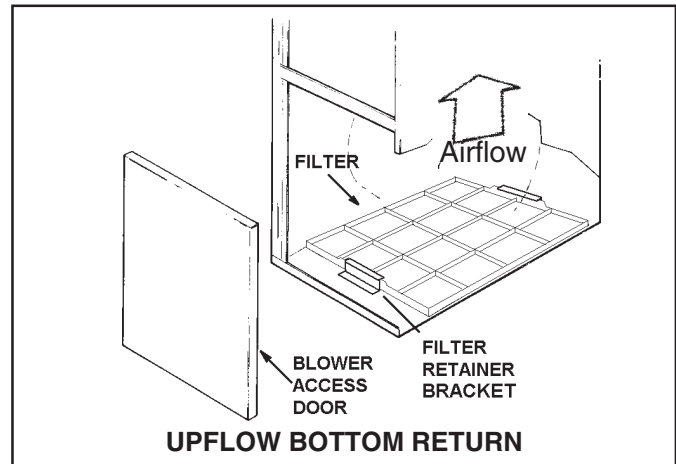
How to remove your filter.

⚠ WARNING

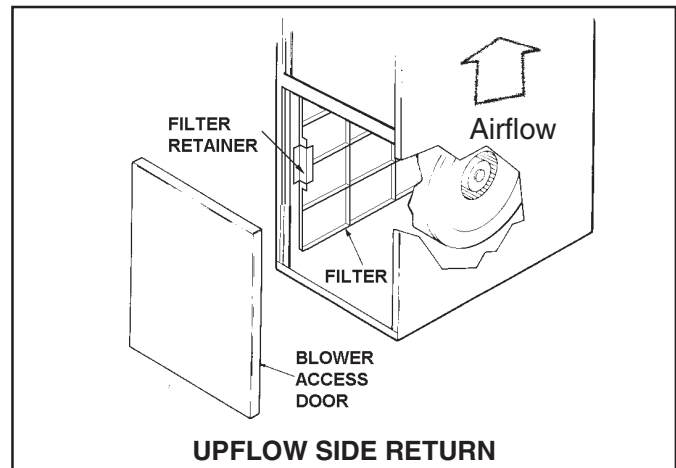
Disconnect power to unit before removing blower door.

Upflow furnaces use a high velocity type air filter which may be located within the furnace blower compartment in either a BOTTOM or SIDE (left or right) return air inlet. The furnace may be secured with filter retaining brackets (as shown) or a filter retainer wire.

To replace filters, remove blower access door, push back to flex the filter and clear the filter retaining bracket at the front of the unit. After cleaning, replace the filter in the same manner making sure that the filter wire is secured in place in both front and back filter retaining brackets. Replace blower access door.



UPFLOW BOTTOM RETURN

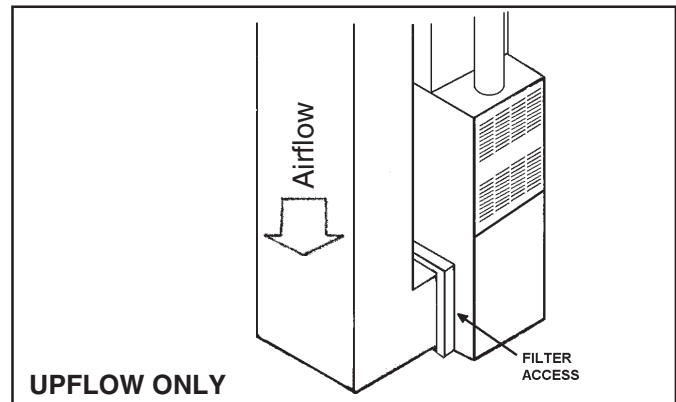


UPFLOW SIDE RETURN

A bottom return air inlet as shown features a 17" x 25" x 1" filter in the 17-1/2" wide furnace cabinets; a 20" x 25" x 1" filter in the 21" wide models; and a 24" x 25" x 1" filter in the 24-1/2" wide cabinet.

For vertical UPFLOW ONLY, a left or right return air inlet as above (left side shown) requires trimming of the factory supplied filter to 17" x 25" x 1" for both the 21" and 24-1/2" wide furnaces.

Air filters may also be located outside of the furnace using a **SIDE FILTER FRAME**.



UPFLOW ONLY

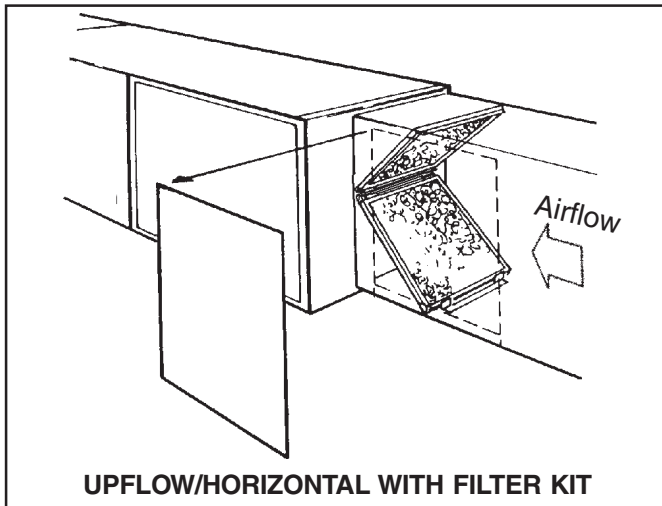
User's Information

Upflow / Horizontal Furnace Filters

The Upflow/Horizontal furnace when installed horizontally requires a horizontal filter kit. The filters may be located remote to the furnace or in the return air duct near the furnace. Check with your dealer for the location of your filters.

An upflow/horizontal furnace in horizontal return air filter application, as shown, features two 16" x 20" x 1" filters in the 17-1/2", 21" and 24-1/2" wide furnace cabinets.

To replace filters, remove the filter access door, lift the filter from the lower bracket and shift the filter to the side to free the top filter from the bracket and slide the filters out through the filter access door. After cleaning, replace the filters in the same manner making sure that the filters are secured in place in both top and bottom filter brackets. Replace filter access door.



Air filters may also be located outside of the furnace using a remote filter grille. The filter grille could be in a hallway, wall, or in the ceiling. Check with your dealer for the exact location of your filter and the method of changing the filters.

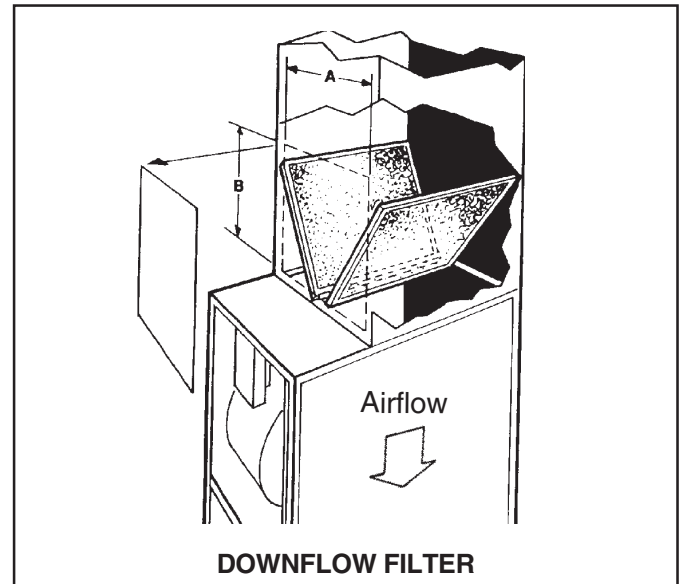
UPFLOW FILTER TABLES

REQUIRED FILTERS - BOTTOM	
CABINET WIDTH	FILTER QUANTITY & SIZE
14-1/2"	1 - 14" X 25" X 1"
17-1/2"	1 - 17" X 25" X 1"
21"	1 - 20" X 25" X 1"
24-1/2"	1 - 24" X 25" X 1"

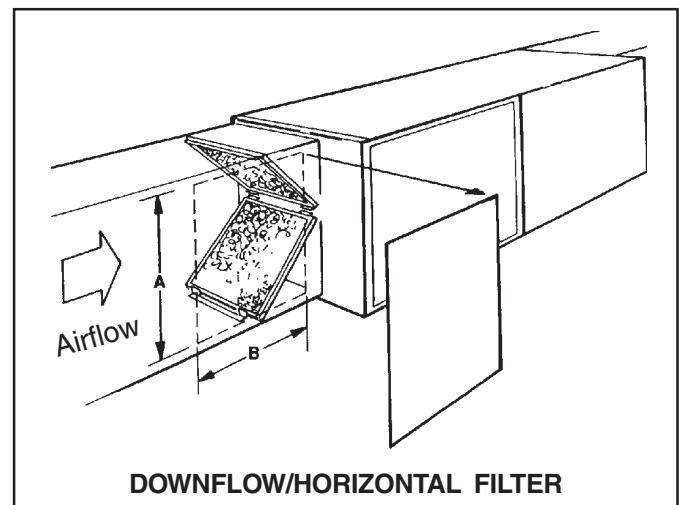
REQUIRED FILTERS - SIDE **	
CABINET WIDTH	FILTER QUANTITY & SIZE
14-1/2"	1 - 17" X 25" X 1"
17-1/2"	1 - 17" X 25" X 1"
21"	1 - 20" X 25" X 1"
24-1/2"	1 - 24" X 25" X 1"

** ALL 5 TON AIRFLOW MODELS ("960", "961", OR "972"), **REQUIRE** BOTH SIDES **OR** 1 SIDE AND THE BOTTOM, **OR** JUST THE BOTTOM FOR SUFFICIENT AIRFLOW

Downflow/Horizontal furnaces are factory supplied with 2 standard size permanent type air filters which may be located remote to the furnace or in the return air duct. Check with your dealer for the location of your filters.



A downflow/horizontal furnace return air filter application, as shown, features two 14" x 20" x 1" filters in the 17-1/2" wide furnace cabinets; or two 16" x 20" x 1" filters in the 21" and 24-1/2" wide furnace cabinets.



DOWNFLOW FILTER TABLE

REQUIRED FILTERS - DOWNFLOW	
CABINET WIDTH	FILTER QUANTITY & SIZE
14-1/2"	2 - 14" X 20" X 1"
17-1/2"	2 - 16" X 20" X 1"
21"	2 - 16" X 20" X 1"
24-1/2"	2 - 16" X 20" X 1"

User's Information

The Problem Solver

A furnace is not a household appliance. It is complex and requires professional maintenance and repair.

That's why attempts at "do-it-yourself" repairs on an in-warranty unit may void the remainder of your warranty.

Other than performing the simple maintenance recommended in this manual, you should not attempt to make any adjustments to your furnace. Your dealer will be able to take

care of any questions or problems you may have. A periodic inspection of your furnace should be made by a qualified service agency at the start of each heating season.

Keep your furnace looking like new for years.

Clean the enamel finish of your furnace with ordinary soap and water. For stubborn grease spots, use a household detergent. Lacquer thinner or other synthetic solvents may damage the finish.

Save time and money. Before calling for service, check the following:

Problem	Possible Trouble	Possible Remedy
No Heating – Blower does not operate.	<ol style="list-style-type: none"> 1. Thermostat set incorrectly. 2. Blown fuse or tripped circuit breaker. 3. Defective component. 4. Burner does not ignite. 5. Main gas line turned off. 6. Blower door removed or ajar. 7. Lockout 	<ol style="list-style-type: none"> 1. Adjust thermostat. See operating instructions. 2. Replace or reset protective device or call for servicer. 3. Most controls are automatic and will recycle. If your unit still does not operate call for servicer. 4. Call servicer. 5. Have gas company check. 6. Close door securely to restore power to blower and gas valve. 7. Turn power on-off-on-off twice in 30 seconds.
Insufficient Heating – Blower operates continuously.	<ol style="list-style-type: none"> 1. Dirty air filters. 2. Blocked supply or return registers. 	<ol style="list-style-type: none"> 1. Clean or replace filters. 2. Make sure registers are open and No obstacles blocking off the air.
No Heat – Vent motor is running.	Restricted or plugged furnace Condensate drain.	<ol style="list-style-type: none"> 1. Remove drain clamps to condensate trap and drain pan outlet. 2. Flush or clean drain blockage. 3. Reinstall clamps.
Unusual Noise		Call your servicer

The following warning complies with State of California law, Proposition 65.

⚠ WARNING

THIS PRODUCT CONTAINS FIBERGLASS WOOL INSULATION!

Fiberglass dust and ceramic fibers are believed by the State of California to cause cancer through inhalation. Glasswool fibers may also cause respiratory, skin, or eye irritation.

PRECAUTIONARY MEASURES

- Avoid breathing fiberglass dust.
- Use a NIOSH approved dust/mist respirator.
- Avoid contact with the skin or eyes. Wear long-sleeved, loose-fitting clothing, gloves, and eye protection.
- Wash clothes separately from other clothing: rinse washer thoroughly.
- Operations such as sawing, blowing, tear-out, and spraying may generate fiber concentrations requiring additional respiratory protection. Use the appropriate NIOSH approved respirator in these situations.

FIRST AID MEASURES

- Eye Contact** – Flush eyes with water to remove dust. If symptoms persist, seek medical attention.
- Skin Contact** – Wash affected areas gently with soap and warm water after handling.

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow the installation and operation instructions for the venting system's operation could result in carbon monoxide poisoning or death.

User's Information

Regular Dealer Maintenance

Never stop the cooling system by shutting off the main power.

If the main power to your air conditioner is ever disconnected for more than three hours, turn off the thermostat. Then wait for at least three more hours after the power has been restored before turning the thermostat back on. Failure to follow this procedure could result in damage to your air conditioning system.

1. GENERAL INSPECTION – Examine the furnace installation for the following items:
 - a. All flue product carrying areas external to the furnace (i.e. chimney, vent connector) are clear and free of obstruction.
 - b. The vent connector is in place, slopes upward and is physically sound without holes or excessive corrosion.
 - c. The return air duct connection(s) is physically sound, is sealed to the furnace and terminates outside the space containing the furnace.
 - d. The physical support of the furnace should be sound without sagging, cracks, gaps, etc., around the base so as to provide a seal between the support and the base.
 - e. There are no obvious signs of deterioration of the furnace.

The following warning complies with State of California law, Proposition 65.

⚠ WARNING

Hazardous Gases!

Exposure to fuel substances or by-products of incomplete fuel combustion is believed by the state of California to cause cancer, birth defects, or other reproductive harm.

2. BLOWERS – The blower size and speed determine the air volume delivered by the furnace. The blower motor bearings are factory lubricated and under normal operating conditions usually do not require servicing. Annual cleaning of the blower wheel and housing is recommended for maximum air output, and this must be performed only by a qualified servicer or service agency.

⚠ WARNING

Unit is equipped with a blower door switch which cuts power to blower and gas valve causing shutdown when door is removed. Unit must not be altered to allow operation with the blower door removed. Operation with doors removed or ajar can permit the escape of dangerous fumes. All panels must be securely closed at all times for safe operation of the furnace.

3. IGNITER – This unit has a special hot surface direct ignition device that automatically lights the burners. Please note that it is very fragile and should be handled with care.

⚠ CAUTION

Do not touch igniter. It is extremely hot.

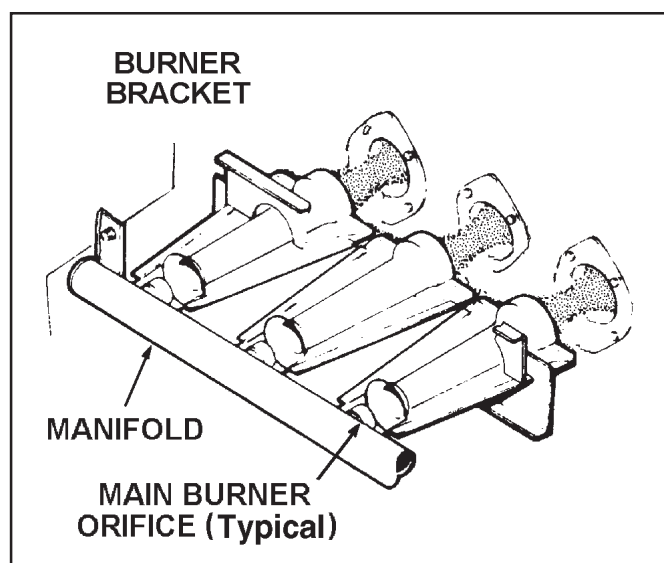
4. BURNER – Gas burners do not normally require scheduled servicing, however, accumulation of foreign material may cause a yellowing flame or delayed ignition. Either condition indicates that a service call is required. For best operation, burners must be cleaned annually using brushes and vacuum cleaner.

Turn off gas and electric power supply. To clean burners, remove top burner bracket and lift burner from orifice.

NOTE:

Be careful not to break igniter when removing burners.

Clean burners with brush and/or vacuum cleaner. Reassemble parts by reversal of the above procedure.



NOTE:

On LP (propane) units, some light yellow tipping of the outer mantle is normal. Inner mantle should be bright blue.

Natural gas units should not have any yellow tipped flames. This condition indicates that a service call is required. For best operation, burners must be cleaned annually using brushes and vacuum cleaner.

NOTE:

On LP (propane) units, due to variations in BTU content and altitude, servicing may be required at shorter intervals.

5. HEAT EXCHANGER / FLUE PIPE – These items must be inspected for signs of corrosion, and/or deterioration at the beginning of each heating season by a qualified service technician and cleaned annually for best operation.
6. CIRCUIT PROTECTION – If blower or gas valve fail to operate, the cause could be the circuit breaker or a loose or blown fuse. Replace fuse or reset circuit breaker.

User's Information

7. OPERATION – Your warm air furnace should not be operated in a corrosive atmosphere. Paint solvents, cleaning chemicals, spray propellants, and bleaches should not be used in the vicinity of the furnace during normal operation.
8. CONDENSATE DRAINS – If you have a cooling coil installed with your furnace, condensate drains should be checked and cleaned periodically to assure that condensate can drain freely from coil to drain. If condensate cannot drain freely water damage could occur. Furnace drain should also be checked & cleaned at the start of each heating season.
9. AIR CIRCULATION – To ensure increased comfort, the blower on this unit may be operated continuously for both heating and cooling. This will result in constantly

filtered air and aid in maintaining more even temperatures by avoiding temperature stratification throughout the conditioned area. To accomplish constant air circulation, set your thermostat fan switch to “ON”.

WARNING

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the furnace before shutting off the electrical supply.

In the event that electrical, fuel or mechanical failures occur, the owner should immediately turn off the gas supply at the manual gas valve located in the burner compartment and electrical power to the furnace and contact servicer.

Chas Roberts

AIR CONDITIONING & HEATING

The Most Comfortable Call You Can Make!

Chas Roberts Air Conditioning is proud to be a family owned and operated business, serving Arizona since 1942.

As your HVAC system Installer, we can provide you with services to meet all of your Heating and Air Conditioning needs after you have taken possession of your new home:

- Sales
- Service & Repair
- Extended Warranties
- Preventative Maintenance

We are available to speak with you Monday-Friday 7am to 8pm, Saturday 7am to 5pm, and Sunday 9am to 4pm with extended hours during the summer.

Please call, or visit our website, with all of your HVAC questions or concerns.

(602) 943-3426 or (520) 292-6858
www.ChasRoberts.com

Limited Warranty
High Efficiency Induced Draft Gas Furnace
UE, DE, CUB and CDB
(First letter may be preceded by an "A" or "T") (Parts Only)
Models Less Than 20 Tons for Residential Use*

This limited warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property to which the Gas Furnace is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada.

If any part of your Gas Furnace fails because of a manufacturing defect within five years from the date of the original purchase, Warrantor will furnish without charge the required replacement part. Any local transportation, related service labor, air filters and diagnosis calls are not included.

In addition, if the steel heat exchanger fails because of a manufacturing defect within the sixth through twentieth year from the date of original purchase, Warrantor will furnish without charge a replacement heat exchanger. Any local transportation, related service labor, air filters, and diagnosis calls, are not included.

This limited warranty does not cover failure of your gas furnace if it is damaged while in your possession, damage caused by unreasonable use of the gas furnace and/or damage from **failure to properly maintain** the gas furnace as set forth in the Use and Care manual (**see Proper Maintenance section**).

This limited warranty applies to product installed on or after 10/1/2001 where product is manufactured after 1/1/2000. This limited warranty is not retroactive to any installations prior to 10/1/2001 or on product produced prior to 2000.

THE LIMITED WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, AND IN NO EVENT SHALL WARRANTOR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied limited warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization through an authorized service organization in your area listed in the yellow pages. If you wish further help or information concerning this limited warranty, contact:

American Standard Inc.
Troup Highway
Tyler, TX 75711-9010
Attention: Manager, After Sales Support

GW-629-1802

* This limited warranty is for residential usage of this equipment and not applicable when this equipment is used for a commercial application. A commercial use is any application where the end purchaser uses the product for other than personal, family or household purposes.

Extended warranties are available from the manufacturer through your dealer. The limited warranty is backed by the manufacturer and any representations made about extending the limited warranty would be backed by the manufacturer if and only if an extended warranty agreement was received *from the manufacturer*.



11/2002

User's Information

Limited Warranty High Efficiency Induced Draft Gas Furnace UE, DE, CUB and CDB

(First letter may be preceded by an "A" or "T") (Parts Only)
Models Less Than 20 Tons for Commercial Use*

This warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property to which the Gas Furnace is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada. There is no warranty against corrosion, erosion or deterioration.

If any part of your Gas Furnace fails because of a manufacturing defect within one year from the date of the original purchase, Warrantor will furnish without charge the required replacement part.

This limited warranty does not cover failure of your gas furnace if it is damaged while in your possession, damage caused by unreasonable use of the gas furnace and/or damage from **failure to properly maintain** the gas furnace as set forth in the Use and Care manual (**see Proper Maintenance section**).

In addition, if the steel heat exchanger fails because of a manufacturing defect within the second through twentieth year from the date of original purchase, Warrantor shall furnish without charge a replacement heat exchanger. Warrantor's obligations and liabilities under this warranty are limited to furnishing F.O.B. Warrantor factory or warehouse replacement parts for Warrantor's products covered under this warranty. No liability shall attach to Warrantor until products have been paid for and then liability shall be limited solely to the purchase price of the equipment under warranty shown to be defective.

THE WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, AND IN NO EVENT SHALL WARRANTOR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

American Standard Inc.
Troup Highway
Tyler, TX 75711-9010
Attention: Manager, After Sales Support

GW-636-1802

* This warranty is for commercial usage of said equipment and not applicable when the equipment is used for a residential application. Commercial use is any application where the end purchaser uses the product for other than personal, family or household purposes.

Extended warranties are available from the manufacturer through your dealer. The limited warranty is backed by the manufacturer and any representations made about extending the limited warranty would be backed by the manufacturer if and only if an extended warranty agreement was received *from the manufacturer*.

