

USER'S INFORMATION MANUAL

UPFLOW 80% ULTRA LOW NO_x GAS FURNACES

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.

WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

- Do not store or use gasoline or other flammable vapors and liquids, or other combustible materials 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.
 - Do not return to your home until authorized by the gas supplier or 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. and/or C.S.A. recognized fuel gas and CO (carbon monoxide) 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.
- Improper installation, adjustment, alteration, service or maintenance can cause injury, property damage or death. Refer to this manual. Installation and service must be performed by a qualified installer, service agency or the gas supplier. In the commonwealth of Massachusetts, installation must be performed by a licensed plumber or gas fitter for appropriate fuel.

IMPORTANT: READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING TO OPERATE THIS FURNACE.

This furnace has been designed to give you many years of efficient, dependable home comfort. With regular maintenance, this furnace will operate satisfactorily year after year. Please read this manual to familiarize yourself with operation, routine maintenance schedule, and safety procedures.

WARNING

DEVICES ATTACHED TO THE FLUE OR VENT FOR THE PURPOSE OF REDUCING HEAT LOSS UP THE CHIMNEY, INCLUDING FIELD-INSTALLED DRAFT INDUCERS, HAVE NOT BEEN TESTED AND HAVE NOT BEEN INCLUDED IN THE DESIGN CERTIFICATION OF THIS FURNACE. WE, THE MANUFACTURER, CANNOT AND WILL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE CAUSED BY THE USE OF SUCH UNTESTED AND/OR UNCERTIFIED DEVICES, ACCESSORIES OR COMPONENTS.

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

CAREFULLY FOLLOW THESE SAFETY RULES:

1. Combustible material must not be placed on or against the furnace jacket. The area around the furnace must be kept clear and free of all combustible materials including gasoline and other flammable vapors and liquids.
2. A furnace installed in an attic or other insulated space must be kept free and clear of insulating material. Examine the furnace area when installing the furnace or adding more insulation. Some materials may be combustible.
3. To prevent carbon monoxide poisoning, all blower doors and compartment covers must be replaced after the furnace is serviced. Do not operate the unit without all panels and doors securely in place.
4. Should overheating occur, or the gas valve fail to shut off the gas supply, turn off the manual gas valve to the furnace before turning off the electrical supply.
5. Any additions, changes or conversions required in order for the furnace to satisfactorily meet the application needs should be made by a qualified installer, service agency or the gas supplier, using factory specified or approved parts. Read your WARRANTY. This furnace was equipped at the factory for use on NATURAL GAS ONLY.
6. A furnace needs an adequate supply of combustion and ventilation air for proper and safe operation. Do not block or obstruct air openings on the furnace or air openings supplying the area where the furnace is installed. Do not store anything around the furnace that could block the flow of fresh air to the

DO NOT DESTROY. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.



unit. Your installation may receive air from the inside heated space, from the outside, from the attic or crawl space. When ever adding insulation, be sure the air supply openings are not covered.

7. **WARNING**

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, ELECTRICAL PARTS THAT HAVE BEEN WET OR THE FURNACE IF DEEMED NECESSARY.

8. Should the gas supply fail to shut off or if overheating occurs, shut off the gas valve to the furnace before shutting off the electrical supply.
9. This furnace is equipped with a blocked vent shutoff system to protect against vent blockage. If this furnace fails to operate you should contact a qualified service agency.



GENERAL INFORMATION

WARNING

DUCT LEAKS CAN CREATE AN UNBALANCED SYSTEM AND DRAW POLLUTANTS SUCH AS DIRT, DUST, FUMES AND ODORS INTO THE HOME CAUSING PROPERTY DAMAGE. FUMES AND ODORS FROM TOXIC, VOLATILE OR FLAMMABLE CHEMICALS, AS WELL AS AUTOMOBILE EXHAUST AND CARBON MONOXIDE (CO), CAN BE DRAWN INTO THE LIVING SPACE THROUGH LEAKING DUCTS AND UNBALANCED DUCT SYSTEMS CAUSING PERSONAL INJURY OR DEATH (SEE FIGURE 1).

- IF AIR-MOVING EQUIPMENT OR DUCTWORK IS LOCATED IN GARAGES OR OFF-GARAGE STORAGE AREAS – ALL JOINTS, SEAMS, AND OPENINGS IN THE EQUIPMENT AND DUCT MUST BE SEALED TO LIMIT THE MIGRATION OF TOXIC FUMES AND ODORS INCLUDING CARBON MONOXIDE FROM MIGRATING INTO THE LIVING SPACE.
- IF AIR-MOVING EQUIPMENT OR DUCTWORK IS LOCATED IN SPACES CONTAINING FUEL BURNING APPLIANCES SUCH AS WATER HEATERS OR BOILERS – ALL JOINTS, SEAMS, AND OPENINGS IN THE EQUIPMENT AND DUCT MUST ALSO BE SEALED TO PREVENT DEPRESSURIZATION OF THE SPACE AND POSSIBLE MIGRATION OF COMBUSTION BYPRODUCTS INCLUDING CARBON MONOXIDE INTO THE LIVING SPACE.

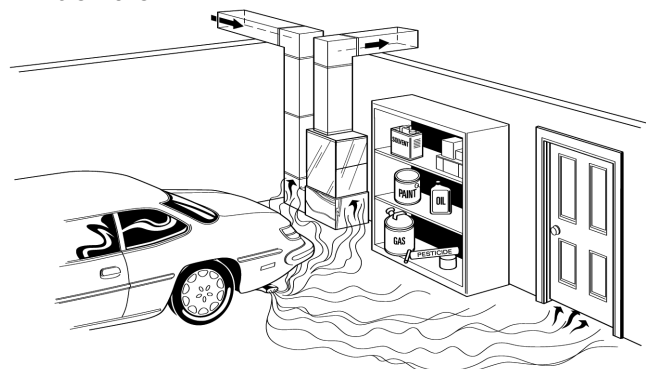
NOTICE

PROPER INSTALLATION, OR INSTALLATION NOT MADE IN ACCORDANCE WITH THE CSA INTERNATIONAL (CSA) CERTIFICATION OR THESE INSTRUCTIONS, CAN RESULT IN UNSATISFACTORY OPERATION AND/OR DANGEROUS CONDITIONS AND ARE NOT COVERED BY THE UNIT WARRANTY.

NOTICE

COMPLIANCE WITH RECOGNIZED CODES, IT IS RECOMMENDED THAT AN AUXILIARY DRAIN PAN BE INSTALLED UNDER ALL EVAPORATOR COILS OR UNITS CONTAINING EVAPORATOR COILS THAT ARE LOCATED IN ANY AREA OF A STRUCTURE WHERE DAMAGE TO THE BUILDING OR BUILDING CONTENTS MAY OCCUR AS A RESULT OF AN OVERFLOW OF THE COIL DRAIN PAN OR A STOPPAGE IN THE PRIMARY CONDENSATE DRAIN PIPING. SEE ACCESSORIES SECTION OF THESE INSTRUCTIONS FOR AUXILIARY HORIZONTAL OVERFLOW PAN INFORMATION (MODEL RXBM).

FIGURE 1
MIGRATION OF DANGEROUS SUBSTANCES, FUMES, AND ODORS INTO LIVING SPACES



Adapted from *Residential Duct Diagnostics and Repair*, with permission of Air Conditioning Contractors of America (ACCA).



GENERAL INFORMATION (cont.)

IMPORTANT INFORMATION ABOUT EFFICIENCY AND INDOOR AIR QUALITY

Central cooling and heating equipment is only as efficient as the duct system that carries the cooled or heated air. To maintain efficiency, comfort and good indoor air quality, it is important to have the proper balance between the air being supplied to each room and the air returning to the cooling and heating equipment.

Proper balance and sealing of the duct system improves the efficiency of the heating and air conditioning system and improves the indoor air quality of the home by reducing the amount of air-borne pollutants that enter homes from spaces where the ductwork and / or equipment is located. The manufacturer and the U.S. Environmental Protection Agency's Energy Star Program recommend that central duct systems be checked by a qualified contractor for proper balance and sealing.

WARNING

FIRE, EXPLOSION OR CARBON MONOXIDE POISONING HAZARD

Failure to replace with proper control could result in fire, explosion or carbon monoxide poisoning.

This appliance uses **PRESSURE REGULATED** gas control.

Replace **ONLY** with the same model number or as specified by the manufacturer.

WARNING

CARBON MONOXIDE (CO) IS A COLORLESS, ODORLESS, POISONOUS GAS THAT CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. CARBON MONOXIDE CAN BE PRODUCED BY ANY FUEL-BURNING DEVICE, INCLUDING BUT NOT LIMITED TO:

- MOTOR VEHICLES
- GENERATORS AND OTHER GASOLINE POWERED TOOLS AND ENGINES
- GAS AND FUEL-OIL APPLIANCES
- CHARCOAL OR GAS GRILLS
- WOOD OR GAS FIREPLACES AND STOVES
- OUTDOOR CAMPING EQUIPMENT

CARBON MONOXIDE FROM ANY ONE OF THESE DEVICES CAN BE INADVERTENTLY DRAWN INTO AND DISTRIBUTED THROUGH THE LIVING SPACE BY THE NORMAL OPERATION OF THE CENTRAL HEATING / AIR CONDITIONING SYSTEM (SEE FIGURE 1).

APPLIANCES AND FUEL BURNING DEVICES MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

GASOLINE-POWERED TOOLS AND MOTOR VEHICLES MUST NOT BE OPERATED IN ENCLOSED SPACES, SUCH AS BASEMENTS, CRAWLSPACES, OR GARAGES, EVEN WITH DOORS AND WINDOWS OR VENTS OPEN, AS EXHAUST FUMES INCLUDING CARBON MONOXIDE CAN BUILD UP AND SEEP INTO THE LIVING SPACE THROUGH CRACKS AND OPENINGS IN THE STRUCTURE. TOXIC FUMES, INCLUDING CARBON MONOXIDE, CAN ALSO BE DRAWN INTO THE LIVING SPACE THROUGH OPENINGS AND SEAMS IN THE CENTRAL HEATING AND AIR CONDITIONING EQUIPMENT AND / OR DUCTWORK.

FOR THESE REASONS, THE U.S. CONSUMER PRODUCT SAFETY COMMISSION (CPSC) RECOMMENDS THAT EVERY HOME HAVE AT LEAST ONE CARBON MONOXIDE ALARM INSTALLED IN THE HALLWAY NEAR THE BEDROOMS IN EACH SEPARATE SLEEPING AREA OF THE HOME. CARBON MONOXIDE ALARMS SHOULD BE CERTIFIED TO THE REQUIREMENTS OF THE MOST RECENT UL, IAS OR CSA STANDARD, AND SHOULD BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE ALARM MANUFACTURER'S INSTRUCTIONS.



SYSTEM OPERATION INFORMATION

1. Keep the air filters clean. Your heating system will operate more efficiently and provide better heating, more economically.
2. Arrange your furniture and drapes so that the supply air registers and the return air grilles are unobstructed.
3. Close doors and windows. This will reduce the heating load on your system.
4. Avoid excessive use of exhaust fans.
5. Do not permit the heat generated by television, lamps, or radios to influence the thermostat operation.
6. If you desire to operate your system with constant air circulation, consult your thermostat manual or please ask advice from a qualified installer, service agency or the gas supplier.

During the heating season the operation of the warm air furnace is automatic. Your qualified installer, service agency or the gas supplier has provided a wall mounted thermostat which is sensitive to the change in temperature of the air moving around the thermostat. Your thermostat will have switches to select some or all of the following functions:

HEAT - Turns heating on when temperature drops below the desired temperature.

COOL - Turns cooling on when temperature rises above the desired temperature.

AUTO - Turns cooling or heating system on as required to maintain the desired temperature.

OFF - Turns heating and cooling modes off. (The blower may still circulate air in the FAN-ON position.)

FAN-ON - Turns the blower on for continuous operation.

FAN-AUTO - The blower cycles on and off with cooling or heating operation.

FOR YOUR SAFETY READ BEFORE OPERATING

▲ WARNING

IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

NOTE: Read and follow the Safety Information, Operating Instructions and Instructions To Turn Off Gas To Appliance located on the furnace. This label will have specific information regarding the furnace and its gas controls.

OPERATING INSTRUCTIONS

1. STOP! Read all safety information.
2. Set the thermostat to the lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an intermittent pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Remove burner access door.
6. Turn manual gas control knob clockwise or set the gas control switch to the "OFF" position. See Figure 3.
7. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! If you don't smell gas, go to the next step.
8. Turn on gas to main burners by turning the manual gas control switch to the "ON" position.
9. Replace the burner access door. Be sure that attachment latches are secure.
10. Turn on all electric power to the appliance.
11. Set the thermostat to desired setting.
12. If the appliance will not operate, follow the instructions "To Turn Off Gas To The Appliance" and call your service technician or gas supplier.

TO TURN OFF GAS TO THE APPLIANCE

IMPORTANT: Shut off the manual gas valve located in the gas supply piping outside the furnace casing.

1. Set the thermostat to the lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove the burner access door.
4. Turn the gas control knob or set the gas control switch to the "OFF" position. See Figure 3.
NOTE: Furnace will include Honeywell gas control.
5. Replace burner access door.

FIGURE 2
GAS PIPING INSTALLATION

UPFLOW

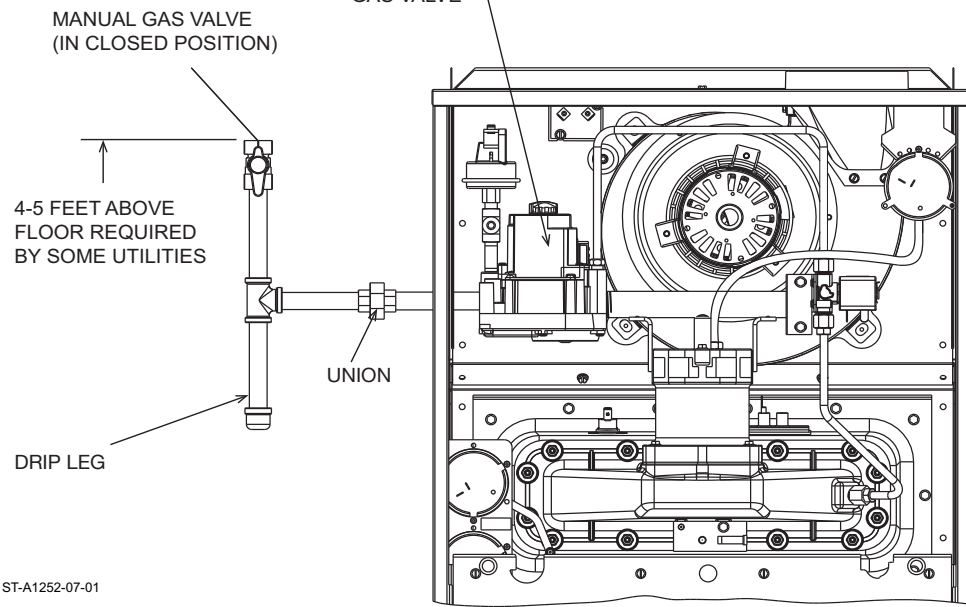


FIGURE 2B
ALTERNATE GAS PIPING INSTALLATION

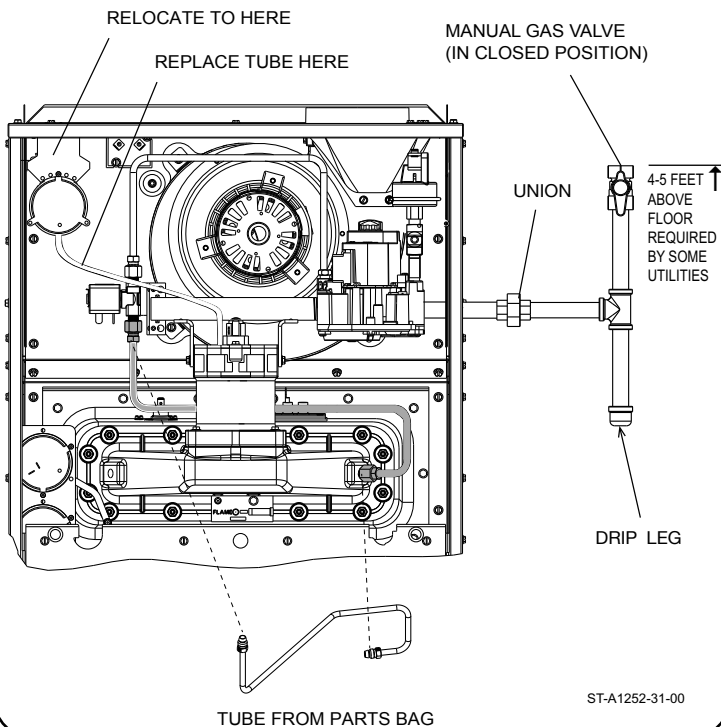
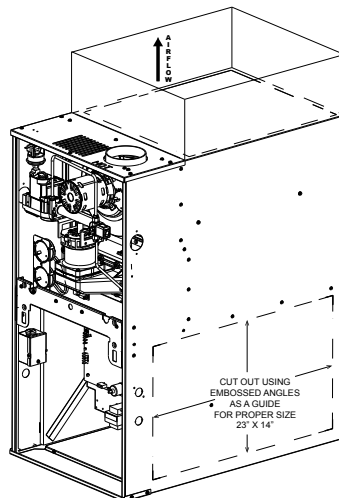
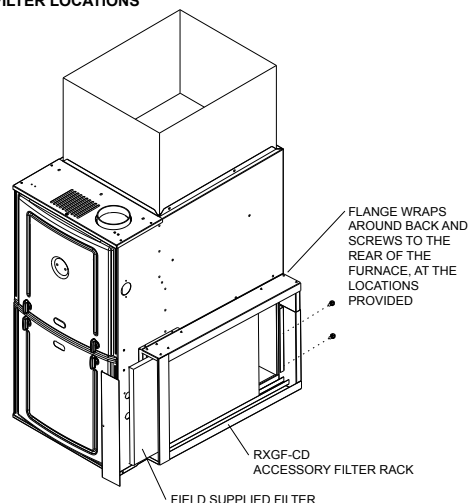


FIGURE 3
HONEYWELL GAS VALVE

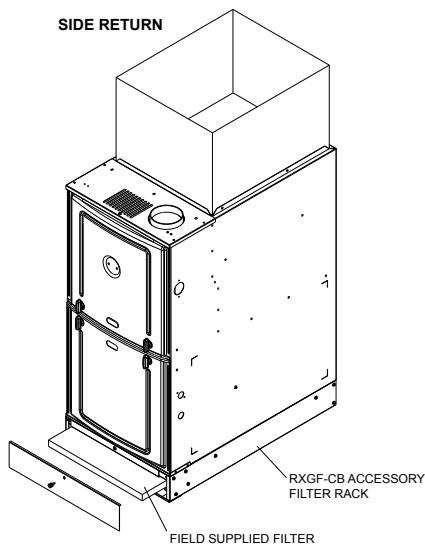


FIGURE 4
UPFLOW – RECOMMENDED

FILTER LOCATIONS



SIDE RETURN



BOTTOM RETURN

ST-A1252-30-00

⚠ WARNING

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings 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.

⚠ WARNING

FIRE, EXPLOSION OR CARBON MONOXIDE POISONING HAZARD

Failure to replace with proper control could result in fire, explosion or carbon monoxide poisoning.

This appliance uses a **NEGATIVE PRESSURE REGULATED** gas control.

Replace **ONLY** with the same model number or as specified by the manufacturer.

UPFLOW FILTER SIZES

FURNACE WIDTH	BOTTOM SIZE	SIDE SIZE	QUANTITY
17½"	15¾" X 25"	15¾" X 25"	1
21"	19¾" X 25"	15¾" X 25"	1
24½"	22¾" X 25"	15¾" X 25"	1



MAINTENANCE

WARNING

DISCONNECT MAIN ELECTRICAL POWER TO THE UNIT BEFORE ATTEMPTING ANY MAINTENANCE. FAILURE TO DO SO CAN CAUSE ELECTRICAL SHOCK RESULTING IN SEVERE PERSONAL INJURY OR DEATH.

CAUTION

DO NOT OPERATE YOUR SYSTEM FOR EXTENDED PERIODS WITHOUT FILTERS. A PORTION OF THE DUST ENTRAINED IN THE AIR MAY TEMPORARILY LODGE IN THE AIR DUCT RUNS AND AT THE SUPPLY REGISTERS. ANY RECIRCULATED DUST PARTICLES WILL BE HEATED AND CHARRED BY CONTACT WITH THE FURNACE HEAT EXCHANGER. THIS RESIDUE WILL SOIL CEILINGS, WALLS, DRAPES, CARPETS, AND OTHER HOUSEHOLD ARTICLES.

IT IS RECOMMENDED THAT AN ANNUAL INSPECTION OF YOUR FURNACE BE DONE BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

FILTER MAINTENANCE

Have your qualified installer, service agency or the gas supplier instruct you on how to access your filters for regular maintenance.

WARNING

TURN OFF ELECTRICAL POWER TO FURNACE BEFORE REMOVING FRONT ACCESS DOOR. FAILURE TO DO SO CAN RESULT IN ELECTRICAL SHOCK, SEVERE PERSONAL INJURY OR DEATH.

Keep air filters clean at all times. Inspect filters on a monthly basis and if necessary replace with a clean filter.

After filters are cleaned and returned to the filter rack, be sure filter rack door is properly reinstalled. If you are not totally sure of this procedure, consult a qualified installer, service agency or the gas supplier.

REMOVING FILTERS

UPFLOW FURNACE – FILTERS IN BOTTOM OR SIDE DUCT LOCATION

1. Remove filter rack access door using a slotted screwdriver.
2. Remove disposable filter.
3. Replace with new filter.
4. Replace filter rack access door and tighten door screw.

ROUTINE MAINTENANCE

Routine maintenance to be provided by a qualified installer, service agency or the gas supplier ONLY.

LUBRICATION

The blower motor and induced draft motor are prelubricated by the manufacturer and do not require further attention.

IMPORTANT: DO NOT attempt to lubricate the bearings on the blower motor or the induced draft blower motor. Addition of lubricants can reduce the motor life and void the warranty.

WARNING

DISCONNECT MAIN ELECTRICAL POWER TO THE UNIT BEFORE ATTEMPTING ANY MAINTENANCE. FAILURE TO DO SO CAN RESULT IN ELECTRICAL SHOCK, SEVERE PERSONAL INJURY OR DEATH.

The blower compartment and motor should be inspected and cleaned periodically by your qualified installer, service agency or the gas supplier to prevent the possibility of overheating due to an accumulation of dust and dirt on the windings or on the motor exterior. And, as suggested elsewhere in these instructions, the air filters should be kept clean because dirty filters can restrict airflow and the motor depends upon sufficient air flowing across and through it to keep from overheating

COMBUSTION AREA AND VENT SYSTEM

1. It is recommended that an annual inspection of your furnace be done by a qualified installer, service agency or the gas supplier.
2. Turn OFF the electrical supply to the furnace and remove the access doors.
3. Inspect combustion air inlet filter. Remove, clean and replace if necessary. (See Figure 5.)

WARNING

IF DIRT, RUST, SOOT OR SCALE ACCUMULATIONS ARE PRESENT, DO NOT OPERATE THE FURNACE. INSPECT THE HEAT EXCHANGERS FOR LEAKS. LEAKS CAN CAUSE TOXIC FUMES TO ENTER THE HOME AND CAUSE CARBON MONOXIDE POISONING OR DEATH.

4. Inspect the flue connection area and vent pipe. Be sure that the vent connector is in place and slopes upward and is physically sound, without holes or excessive corrosion.
5. Be sure that all venting is clear and free of obstructions.



MAINTENANCE (cont.)

WARNING

CHECK VENT PIPE SECTIONS FOR DETERIORATION AND CHECK JOINT FITTINGS FOR THEIR INTEGRITY. IF IT HAS BECOME DISCONNECTED OR TOXIC FUMES CAN ESCAPE INTO THE HOME AND CAUSE CARBON MONOXIDE POISONING OR DEATH. DO NOT OPERATE THIS FURNACE. APPROPRIATE SERVICE MUST BE APPLIED.

6. Return air ducts are physical sound, are sealed to the furnace casing and terminate outside the space containing the furnace.
7. Be sure the physical support of the furnace is sound, without sags, cracks, etc., around the base so as to provide a seal between the support and the base.
8. Look for obvious signs of deterioration of the furnace.
9. If the furnace is free of the above conditions, replace the access doors and restore electrical power to the furnace.
10. Start the furnace and observe its operation. If a suspected malfunction is observed, call a qualified service agency.

FIGURE 5A

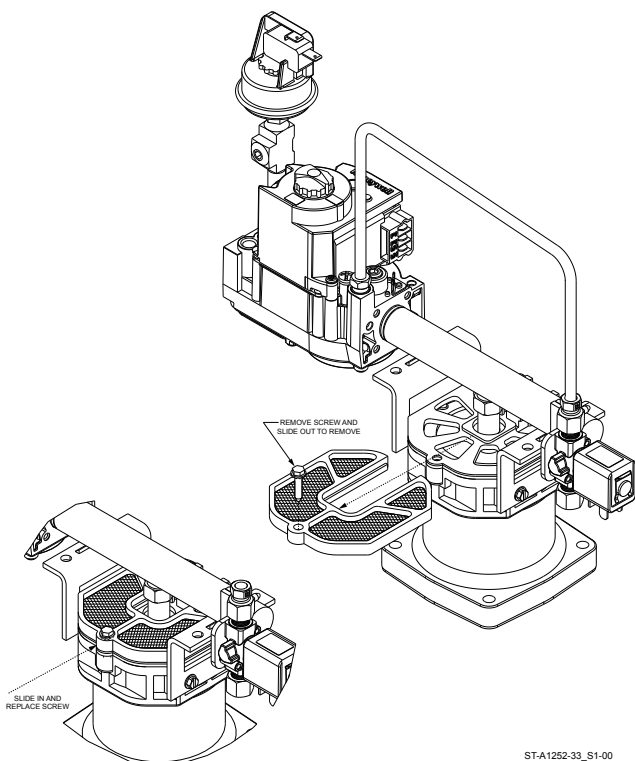
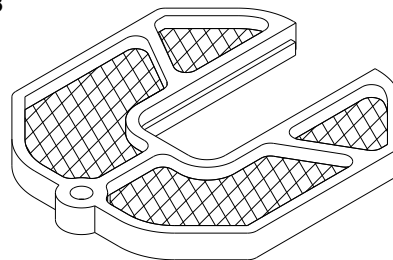


FIGURE 5B



VENTURI AIR INLET FILTER: LOCATED ON TOP OF VENTURI HOUSING IN BURNER COMPARTMENT.

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GAS FURNACE REPLACEMENT PARTS INFORMATION

JACKET ASSEMBLY

Panels & sheet metal parts
Doors

ELECTRIC GROUP

Transformer
Door switch
Pressure switch
Limits
Over-temperature switch
Wire Assemblies
J-Box wire assembly
Gas Inlet Switch
Combustion Air Inlet Pressure Switch
Flame LED

MISCELLANEOUS

Screws
Labels
Door filler band
Door latches
Pilot Tubing
Compression Fittings

BURNER, MANIFOLD & VALVE GROUP

Manifold
Pilot Solenoid
Burner orifice
Gas valve w/Pilot
Burner cover plate
Direct-Spark Igniter/Flame Sensor
Integrated Furnace Control (IFC)
Burner Assembly
Venturi Housing Assembly
Pilot Orifice

BLOWER GROUP

Belly band
Mounting bolt
Induced Draft Blower
Blower assembly with wheel
Motor

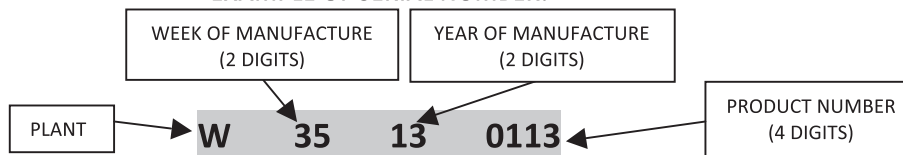
Replacement parts and information from our current parts list for your furnace are available to your servicing contractor through our local distributor. The name and address of our nearest distributor may be obtained by consulting the internet or the local phone directory or by contacting:

PARTS DISTRIBUTION CENTER

Attn: PROSTOCK
4744 Island Ford Rd.
Randleman, NC 27317
Phone: (336) 495-6800

In order to supply the correct part or information from the parts list, our distributor will need to be provided with the complete model number and serial number listed on the rating plate on your furnace.

EXAMPLE OF SERIAL NUMBER:



A separate Gas Control designation will also be provided on the rating label and may be needed when selecting and/or ordering some parts.

EXAMPLE OF GAS CONTROL:



WARNING

IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER FOR INFORMATION OR ASSISTANCE.





