Martin GAS PRODUCTS

MODELS V6935, V6950, V6970
VENTED GAS SPACE HEATER

Installation, Operation and Maintenance Manual

THE DESIGN OF THIS HEATER IS NOT CERTIFIED FOR USE IN MOBILE HOMES, TRAVEL TRAILERS OR CAMPERS.

DANGER

FAILURE TO FOLLOW THESE INSTRUCTIONS CAREFULLY AND WITHOUT ERROR, OR FAILURE TO HEED ANY AND ALL WARNINGS IN THESE INSTRUCTIONS CAN RESULT IN AN EXPLOSION, FIRE OR THE PRODUCTION OF CARBON MONOXIDE GAS WHICH CAN CAUSE PROPERTY DAMAGE, BODILY INJURY OR DEATH.

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

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

"WARNING: IF NOT INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, THIS PRODUCT COULD EXPOSE YOU TO SUBSTANCES IN FUEL OR FROM FUEL COMBUSTION WHICH CAN CAUSE DEATH OR SERIOUS ILLNESS AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. ALSO, OPERATION, INSTALLATION AND SERVICING OF THIS PRODUCT COULD EXPOSE YOU TO AIRBORN PARTICLES OF GLASS WOOL FIBERS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER THROUGH INHALATION."

DUE TO HIGH TEMPERATURES, THE HEATER SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARD OF HIGH SURFACE TEMPERATURE AND SHOULD BE KEPT AWAY TO AVOID BURNS OR CLOTHING IGNITION.

YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM WITH THE HEATER.

ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING AN APPLIANCE MUST BE REPLACED PRIOR TO OPERATING THE APPLIANCE.

DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIAL ON OR NEAR HEATER.

INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE ROOM HEATER SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A PROFESSIONAL SERVICEPERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM SOME CARPETING, BEDDING MATERIAL, ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATING AIR PASSAGEWAYS OF THE HEATER BE KEPT CLEAN.

WARNING: ANY CHANGE TO THIS HEATER OR ITS CONTROLS CAN BE DANGEROUS.

This manual contains safety rules, installation guidelines, use and care instructions and repair parts information.

This manual must become the property of and be reviewed by all future users of this heater. It is the responsibility of the installer to ensure that this manual is understood by the users of this heater.

DANGER: THIS HEATER, AS ANY GAS-FIRED APPLIANCE, CAN PRODUCE POISONOUS CARBON MONOXIDE ALONG WITH OTHER COMBUSTION PRODUCTS. CARBON MONOXIDE, IN STRONG CONCENTRATIONS, CAN CAUSE SICKNESS, SERIOUS PERSONAL INJURY AND DEATH.

THE SYMPTOMS OF CARBON MONOXIDE POISONING MAY RESEMBLE THE FLU WITH HEADACHES, DIZZINESS AND/OR NAUSEA (SICK STOMACH FEELING). IF YOU HAVE THESE SYMPTOMS, THE HEATER MAY NOT BE WORKING OR VENTING PROPERLY. GET FRESH AIR AT ONCE.! AND HAVE THE HEATER CHECKED BY A QUALIFIED SERVICEPERSON.

WHEN PROPERLY INSTALLED, USED AND MAINTAINED, THIS HEATER WILL NOT PRODUCE CARBON MONOXIDE IN DANGEROUS QUANTITIES. HOWEVER, SINCE CARBON MONOXIDE CAN BE DEADLY POISONOUS, THE INSTALLER AND ALL USERS OF THIS HEATER SHOULD READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY.

GASEOUS FUELS ARE HIGHLY EXPLOSIVE IN CERTAIN CONCENTRATIONS AND ARE VERY FLAMMABLE. ANY GAS LEAKS IN THE PLUMBING SUPPLYING GAS TO THIS HEATER CAN LEAD TO FIRE OR EXPLOSION.

IMPORTANT INFORMATION

To assure satisfactory and safe service is received from this heater:

1. Study these instructions carefully and completely before beginning any part of the installation.
2. Heed all warnings and cautions given in this manual.
3. Use these instructions as a guide during the installation. It is not possible to adequately define all installation and use circumstances in this manual, therefore, local codes and ordinances governing gas-fired appliances must be followed during installation. In the absence of local codes or ordinances, the installation and use of this heater must be in accordance with ANSI Z223.1-1988.
4. Be sure this manual becomes the property of and is reviewed by all future users of this heater to encourage proper operation and maintenance of this heater.

This Martin vented room heater has been designed and built to exacting standards which will ensure maximum convenience, comfort and safety, provided the heater is installed and operated correctly. The installation of this heater and any required service must be performed by a licensed or otherwise qualified person.

If an accessory blower is to be used with this heater, use only the Martin accessory blower specified for this heater. The use of other blower systems could cause hazardous operation of the heater. The accessory blower must be connected to a properly fused and grounded 120 volt receptacle. In the absence of a grounded receptacle, the blower should be grounded according to local codes.

DANGER: OPERATION OF THIS HEATER ON GASES FOR WHICH IT IS NOT EQUIPPED MAY LEAD TO CARBON MONOXIDE POISONING.

The type of gas for which this heater is equipped is marked on the silver-colored rating plate on the heater back. "NAT" is natural gas; "LP" is propane or propane/butane mixture gas.

The maximum gas input rate is 35,000 Btu per hour for the V6935, 50,000 Btu per hour for the V6950 and 70,000 Btu per hour for the V6970.

This heater is equipped with controls and orifices for only the type of gas stamped on the rating plate. Do not attempt to convert the heater for use with another type of gas.

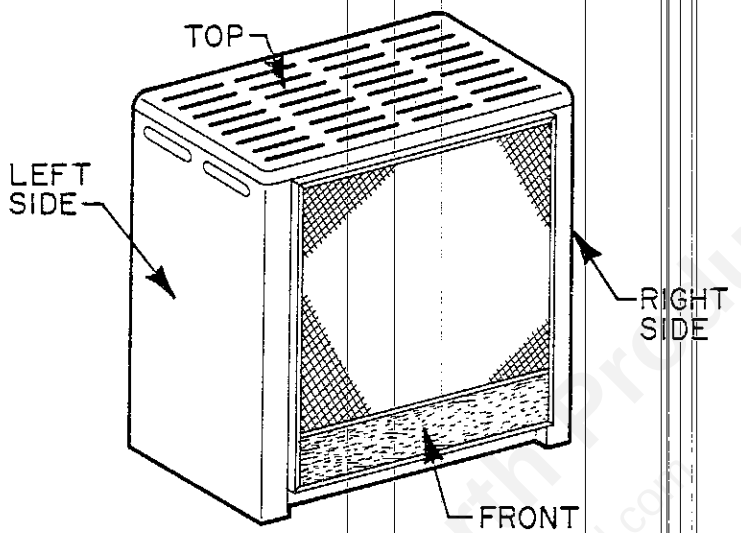
WARNING: CONVERTING THIS HEATER FOR USE WITH ANY GAS OTHER THAN THAT FOR WHICH IT IS FACTORY EQUIPPED MAY LEAD TO PERSONAL INJURY OR DEATH.

This heater is intended to be installed as a free standing unenclosed unit to heat a space constructed of materials and in a manner commonly used for residential construction. Any attempt to install or use this heater in any other manner may be hazardous.

For the purpose of orientation, the left and right sides of this heater are determined when facing the front of the heater. See Figure 1A for illustration. Refer to Figures 1 and 2 for illustration of minimum clearances to walls, ceiling and combustible objects. Some plastic or other artificial materials deform at relatively low temperatures and may require greater clearance from the heater.

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

FIGURE 1A



UNPACKING AND INSPECTION

Unpack the heater and remove the shipping pallet from the heater base. Inspect the heater thoroughly for missing parts or shipping damage. If any damage or missing parts are detected, report this to the Martin Dealer. DO NOT INSTALL OR USE A DAMAGED OR INCOMPLETE HEATER.

HOW THIS HEATER OPERATES

The control on this heater serves several functions. It allows all gas flow to the heater to be turned on or off manually, can be manually set to allow a gas flow to the pilot only, automatically reduces the gas pressure for delivery to the main burner and automatically stops the gas flow to the burner and pilot should the pilot light go out. It will also cause the main burner to shut off if the heater is not properly vented. In addition, controls equipped with a manually adjustable thermostat will turn the gas flow to the burner on and off to regulate the room temperature. Some of these heaters are equipped with a modulating control that operates the heater at approximately 60% of its maximum capacity unless this rate will not maintain the desired room temperature.

As the gas is injected into the burner, air is drawn into the end of the burner and is mixed with the gas. Additional air needed for burning of the gas is drawn from beneath the burner and mixes with the gas/air mixture as it flows from the slots in the top of the burner. Blocking of the air flow to these places will cause the heater to produce hazardous amounts of carbon monoxide.

The gases produced by flame within the heater flow from the combustion chamber and out the heater vent. The chamber that these gases flow into before being directed into the vent is open to the room to provide a pressure relief in the event of a down draft within the vent system. If the vent system is not functioning properly or becomes blocked, gases will flow out of the pressure relief opening and into the room. If this flow continues, the gases could reach hazardous concentrations in the living space, but the hot gases flowing over the vent switch will cause the main and pilot burners to shut off to signal a problem exists. This control system, however, is not a substitute for a properly functioning vent system. Be sure to read carefully the sections of this manual pertaining to venting and the vent system.

BUILDING CODES AND SAFETY STANDARDS

THE DESIGN OF THIS HEATER IS NOT CERTIFIED FOR USE IN MOBILE HOMES, TRAVEL TRAILERS OR CAMPERS. THIS HEATER MUST BE PROPERLY VENTED TO THE OUTSIDE FOR SAFE OPERATION. DO NOT OPERATE THIS HEATER WITHOUT AN ADEQUATE VENTING SYSTEM.

THE DESIGN OF THIS HEATER COMPLIES WITH ANSI Z21.11.1-1991.

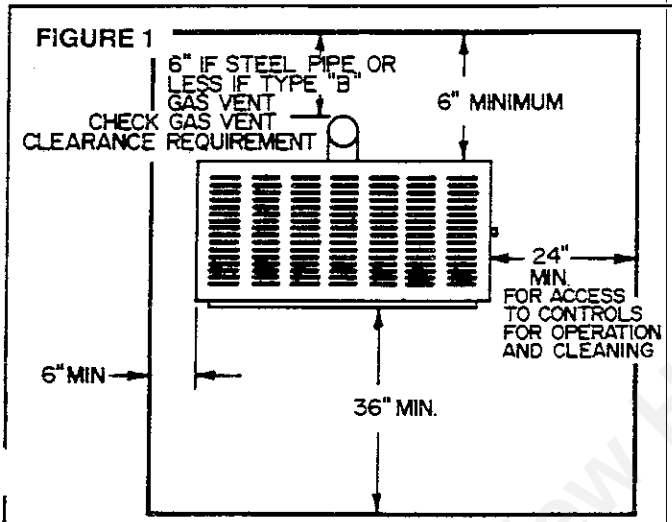
The sections of this manual pertaining to venting and gas piping provide only basic guidelines. Be sure the installation of the vent and gas piping complies with local codes. In the absence of local codes, be sure to comply with the National Fuel Gas Code ANSI Z223.1-1988.

SELECTING A LOCATION FOR THE HEATER

When selecting a location for the heater. be sure attention is given to the following considerations:

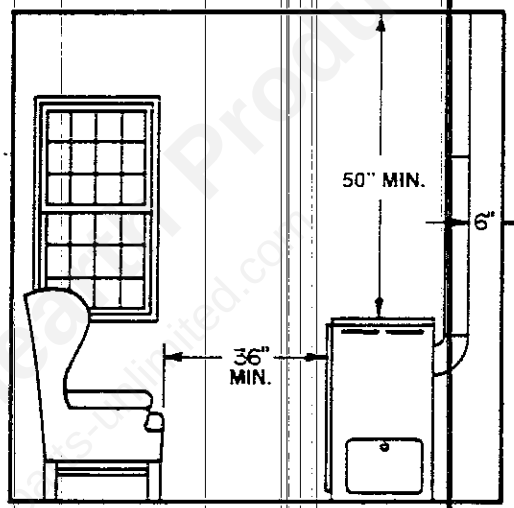
1. The heater should be located to provide the following minimum clearances between the heater and combustible materials:
   Clearance from front of heater - 36 inches
   Clearance from control end of heater - 24 inches (required for cleaning and inspection)
   Clearance from back and end opposite control - 6 inches
   Clearance from top of heater - 50 inches
   (Some plastic materials deform at relatively low temperatures and may require additional clearance from the heater.)
2. The heater should be located near the vent to be used so as to keep the length of the horizontal run of the vent connector as short as possible.
3. The heater should be located centrally within the area where heat is desired. but out of traffic areas or areas where children play, to minimize the chance of persons accidentally contacting the hot surface of the heater.
4. The heater should not be located near doorways or in other areas where drafts may affect the operation of the pilot or main burner.
5. The heater must not be installed in an area where flammable liquids or gases and explosive materials may be used or stored.

FIGURE 1



MINIMUM CLEARANCE TO WALLS AND COMBUSTIBLE OBJECTS

FIGURE 2



MINIMUM CLEARANCES TO CEILING AND FURNITURE

NOTICE: SEE FIGURES 1 AND 2 FOR ILLUSTRATIONS OF PROPER CLEARANCES TO COMBUSTIBLE SURFACES.

WARNING: IF THIS HEATER IS INSTALLED AND OPERATED AT CLEARANCES LESS THAN THOSE SPECIFIED AS MINIMUM IN THESE INSTRUCTIONS, A FIRE HAZARD MAY EXIST WITH POSSIBLE FIRE CAUSING PROPERTY DAMAGE OR PERSONAL INJURY. IF THE HEATER IS OPERATED AT CLEARANCES LESS THAN THOSE SPECIFIED IN THESE INSTRUCTIONS, INSUFFICIENT AIR MAY BE SUPPLIED TO THE HEATER CAUSING POISONOUS CARBON MONOXIDE TO BE PRODUCED.

DANGER: DO NOT INSTALL THIS HEATER IN ANY AREA WHERE GASOLINE OR ANY COMBUSTIBLE OR EXPLOSIVE MATERIAL WILL BE USED OR STORED. THE FLAME FROM THIS HEATER IS EXPOSED TO THE AREA AROUND THE HEATER. CONTACT WITH EXPLOSIVE OR FLAMMABLE MATERIALS WILL LEAD TO EXPLOSION OR FIRE.

FLOOR PROTECTION

Some flooring materials will discolor or otherwise deteriorate at the temperature underneath this heater while it is operating. Therefore. when this heater is installed on carpet. tile. linoleum or any combustible material other than wood flooring. the heater must be installed on a wood panel. metal panel or stoveboard extending the full width and depth of the heater.

WARNING: FAILURE TO ADEQUATELY PROTECT THE FLOORING MATERIAL UNDER THIS HEATER CAN LEAD TO DAMAGE TO THE FLOORING MATERIAL AND/OR FIRE.

GAS PIPING, GAS PRESSURE, VENTING, COMBUSTION AND VENTILATION AIR REQUIREMENTS

Gas Piping and Pressure Requirements

All gas piping must be installed to comply with local codes, or in the absence of local codes, with the latest edition of the National Fuel Gas Code ANSI Z223.1. During pressure testing of the gas piping system supplying the heater. disconnect or isolate the heater from the piping system. The pressure used to test piping systems will damage the controls used on this heater.

Do not use flexible hose unless the hose is listed by a recognized testing agency for use with gas and is approved by the local code authority.

Unions in gas lines shall be of the ground joint type. Compounds used on threaded joints of gas piping must be resistant to the action of liquified petroleum gas.

Gas piping must be of sufficient size to provide a minimum natural gas pressure at the appliance of 7" water column or 11 inches for LP gases. The maximum inlet gas pressure to the heater must not exceed 10 inches for natural gas and 13 inches for LP gases. If this heater is to be supplied with LP gas (bottled propane or butane) the tank or bottle supplying the gas must have a regulator which reduces the gas pressure to between 11 and 13 inches water column. The control will not operate with gas line pressure directly from the tank and may leak gas due to this excessive pressure.

Include a manual shut-off valve and union in the line so the control or heater may be disconnected for servicing. Include a drip leg and a plugged 1/8 inch N.P.T. tapping in the line also. The tapping must be accessible for test gauge connection immediately upstream of the gas supply connection to the heater.

Use a soap-water solution or a liquid gas leak detector to coat each joint in the piping system and look for bubbles which indicate gas leaks.

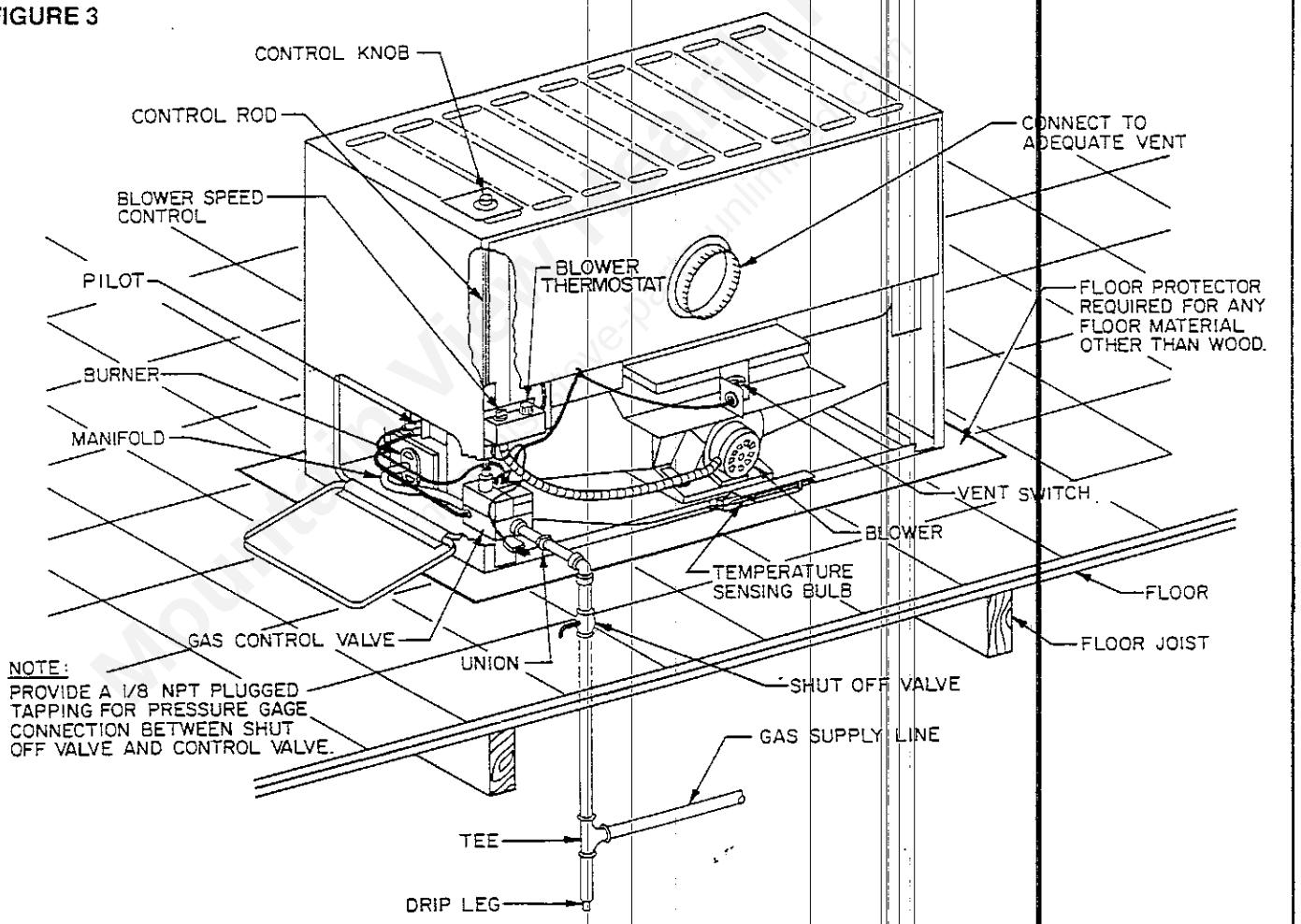
DANGER: OPERATION OF THIS HEATER ON LP GAS WITHOUT AN APPROVED REGULATOR AT THE SUPPLY CONTAINER WILL LEAD TO GAS LEAKS AT THE CONTROL WITH POSSIBLE FIRE OR EXPLOSION.

CAUTION: THE HEATER AND ITS INDIVIDUAL SHUTOFF VALVE MUST BE DISCONNECTED FROM THE GAS SUPPLY PIPING SYSTEM DURING PRESSURE TESTING OF THAT SYSTEM AT TEST PRESSURES IN EXCESS OF 1/2 PSIG. THE HEATER MUST BE ISOLATED FROM THE GAS SUPPLY PIPING SYSTEM BY CLOSING ITS INDIVIDUAL MANUAL SHUTOFF VALVE DURING ANY PRESSURE TESTING OF THE GAS SUPPLY PIPING SYSTEM AT TEST PRESSURES EQUAL TO OR LESS THAN 1/2 PSIG. PRESSURES IN EXCESS OF 1/2 PSIG WILL CAUSE DAMAGE TO THE CONTROL VALVE AND MAY CAUSE DAMAGE TO THE SHUTOFF VALVE.

DANGER: DO NOT USE CANDLES, MATCHES OR OTHER IGNITION SOURCES WHEN CHECKING FOR GAS LEAKS. FUEL GASES ARE VERY FLAMMABLE AND, IN CERTAIN CONCENTRATIONS, EXPLOSIVE. CHECKING FOR LEAKS WITH AN OPEN FLAME MAY LEAD TO FIRE OR EXPLOSION.

A standard control assembly and typical gas piping diagram are shown by figure 3.

FIGURE 3



enting Requirements

WARNING: DO NOT CONNECT THIS HEATER TO A CHIMNEY FLUE SERVING A SEPARATE SOLID FUEL BURNING APPLIANCE. CARBON DEPOSITS (SOOT) AND CREOSOTE FROM SOLID FUELS CAN CLOG THE VENT FROM THE HEATER. CAUSING POISONOUS CARBON MONOXIDE TO BE RELEASED INTO THE ROOM IN WHICH THE HEATER IS INSTALLED.

All vented room heaters when operating correctly produce small concentrations of carbon monoxide along with other combustion products. Should something interfere with the operation of the heater, it is possible for the heater to produce deadly quantities of poisonous carbon monoxide. ALL FLUE PRODUCTS FROM THIS HEATER MUST BE VENTED TO THE OUTSIDE AT ALL TIMES. NEVER OPERATE A HEATER DESIGNED TO BE VENTED WITHOUT A CORRECTLY WORKING VENT SYSTEM CONNECTED TO THE HEATER.

WARNING: VENTING OF THIS HEATER IS ONE OF THE MOST IMPORTANT PARTS OF THE INSTALLATION. VENTING SYSTEMS MUST BE INSTALLED AND INSPECTED ACCORDING TO THESE INSTRUCTIONS AND LOCAL CODES OR IN THE ABSENCE OF LOCAL CODES ACCORDING TO NATIONAL FUEL GAS CODE Z223.1 - LATEST EDITION BY A LICENSED OR OTHERWISE QUALIFIED INSTALLER.

Your local gas company should have copies of the National Fuel Gas code Z223.1 or other installation codes applicable to your area.

Venting requirements and accepted methods vary greatly depending on the particular installation. It is impossible to thoroughly define all possible installation circumstances in this manual. The following instructions and illustrations are general guidelines only. ALL VENTING MATERIAL MUST BE INSTALLED ACCORDING TO LOCAL CODES OR IN THE ABSENCE OF SUCH CODES ACCORDING TO THE NATIONAL FUEL GAS CODE Z223.1.

WARNING: AN IMPROPERLY VENTED GAS-FIRED ROOM HEATER CAN LEAD TO DEATH FROM CARBON MONOXIDE POISONING.

This heater is equipped with a vent control system. This control system is designed to shut the heater off should it not be properly vented.

WARNING: ANY TAMPERING WITH THE VENT SHUTOFF SYSTEM OR CONTINUED USE OF THE HEATER WITH A POORLY FUNCTIONING VENT CAN LEAD TO CARBON MONOXIDE POISONING AND POSSIBLE DEATH.

The vent control system is **NOT** a substitute for proper venting.

Venting materials are not provided with this heater and must be purchased separately.

The only safe vent is a properly install type "B" vent certified by a nationally recognized testing agency or a masonry chimney which is lined. in good condition and does not serve a wood or coal burning appliance.

WARNING: IMPROPERLY INSTALLED AND MAINTAINED VENTING SYSTEMS CAN LEAD TO DEATH FROM CARBON MONOXIDE POISONING.

For safe venting the proper size vent material must be used. A vent pipe that is too small can cause poisonous carbon monoxide to escape from the heater. The connector pipe from the heater to the flue must be the same size as the vent collar on the heater. Models V6935 and V6950 use a four-inch vent; model V6970 uses a five-inch vent.

The heater must be installed so that the draft hood is in the same atmospheric pressure zone as the combustion air inlet to the heater.

VENTING WITH CLASS "B" GAS VENT MATERIAL

Figure 4 shows a typical straight up vent system and the minimum clearances required for safe operation and to prevent fire.

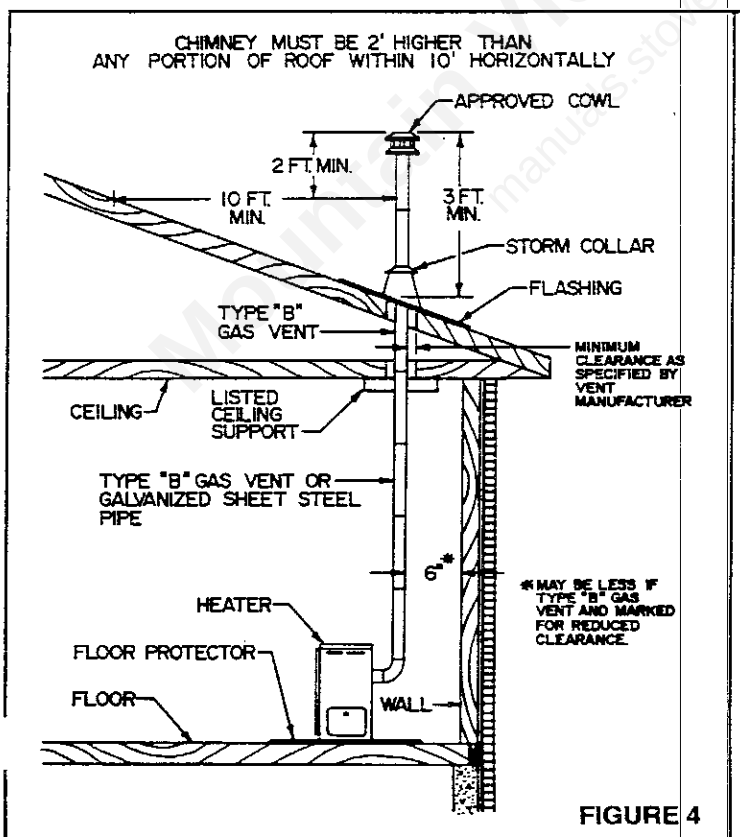


FIGURE 4

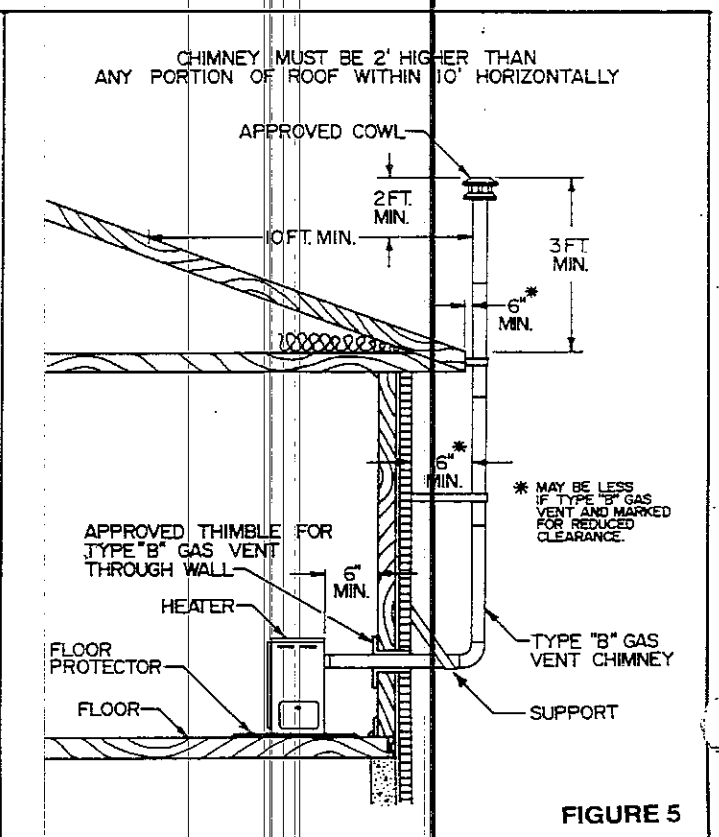


FIGURE 5

DO NOT INSTALL ANY PORTION OF THE VENT SYSTEM OR LOCATE THE HEATER WITH CLEARANCES LESS THAN THOSE SPECIFIED BY FIGURE 4 UNLESS VENT MATERIAL IS LISTED BY NATIONALLY RECOGNIZED TESTING AGENCY AND MARKED FOR A LESSER CLEARANCE. IN NO CIRCUMSTANCE SHOULD YOU INSTALL THE HEATER AT CLEARANCES LESS THAN AS SHOWN BY FIGURES 1 AND 2. TO DO SO CAN LEAD TO FIRE OR DEATH FROM CARBON MONOXIDE POISONING.

A thimble designed and listed for the brand and model type B vent used. must be installed at the ceiling to protect the ceiling structure from potential fire producing temperatures.

The portion of the vent above the roof must extend a minimum of three feet above the roof line and a minimum of two feet above any portion of the roof within ten feet. This is to ensure that the vent draws properly.

WARNING: FAILURE TO USE SUFFICIENT VENT MATERIAL TO MEET THESE MINIMUM HEIGHTS CAN LEAD TO CARBON MONOXIDE PRODUCTION.

Use only a vent cap or cowl approved by a nationally recognized testing agency to prevent rain and snow from entering the vent. The cap or cowl can also help eliminate down drafts which may cause poisonous carbon monoxide to escape from the heater into the room.

Handmade or modified vent caps or cowls can be dangerous by restricting the vent and causing poisonous carbon monoxide to escape from the heater into the room. leading to serious illness or death.

Figure 5 shows a typical through-a-wall and upward venting system and the minimum clearances required for safe operation and to prevent fire. DO NOT INSTALL ANY PORTION OF THE VENT SYSTEM OR LOCATE THE HEATER WITH CLEARANCES LESS THAN THOSE SPECIFIED BY FIGURE 5 UNLESS THE VENT MATERIAL IS LISTED BY A NATIONALLY RECOGNIZED TESTING AGENCY AND MARKED FOR A LESSER CLEARANCE. IN NO CIRCUMSTANCE SHOULD YOU INSTALL THE HEATER AT CLEARANCES LESS THAN AS SHOWN BY FIGURES 1 AND 2. TO DO SO CAN LEAD TO FIRE OR DEATH FROM CARBON MONOXIDE POISONING.

Any horizontal run of vent material must slope upward a minimum of 1/4 inch per foot.

Use only a thimble listed by a nationally recognized testing agency as a wall thimble. where the vent passes through the wall. A handmade or modified "thimble" at the wall can lead to fire.

VENTING THE HEATER INTO A MASONRY CHIMNEY

Figure 6 shows a typical venting into a masonry chimney and the minimum clearances required for safe operation and to prevent fires. DO NOT INSTALL ANY PORTION OF THE VENT SYSTEM OR LOCATE THE HEATER WITH CLEARANCES LESS THAN THOSE SPECIFIED BY FIGURE 6 UNLESS THE VENT MATERIAL IS LISTED BY A NATIONALLY RECOGNIZED TESTING AGENCY AND MARKED FOR LESSER CLEARANCES. IN NO CIRCUMSTANCE SHOULD YOU INSTALL THE HEATER AT CLEARANCE LESS THAN THOSE AS SHOWN BY FIGURES 1 AND 2. TO DO SO CAN LEAD TO FIRE OR DEATH FROM CARBON MONOXIDE POISONING.

WARNING: VENTING INTO A CHIMNEY WHICH DOES NOT MEET THE MINIMUM HEIGHTS SPECIFIED BY FIGURE 6 CAN LEAD TO CARBON MONOXIDE PRODUCTION.

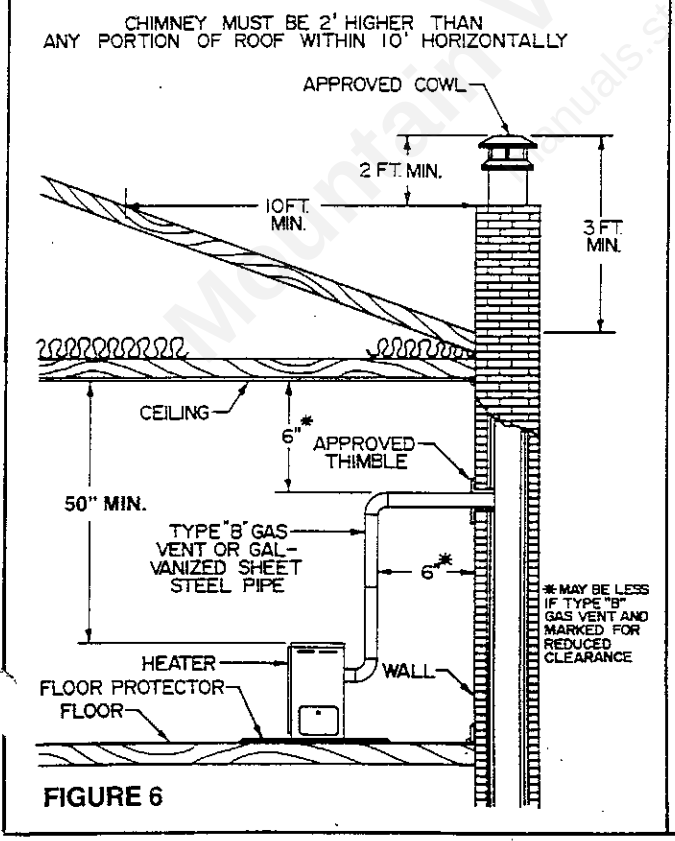


FIGURE 6

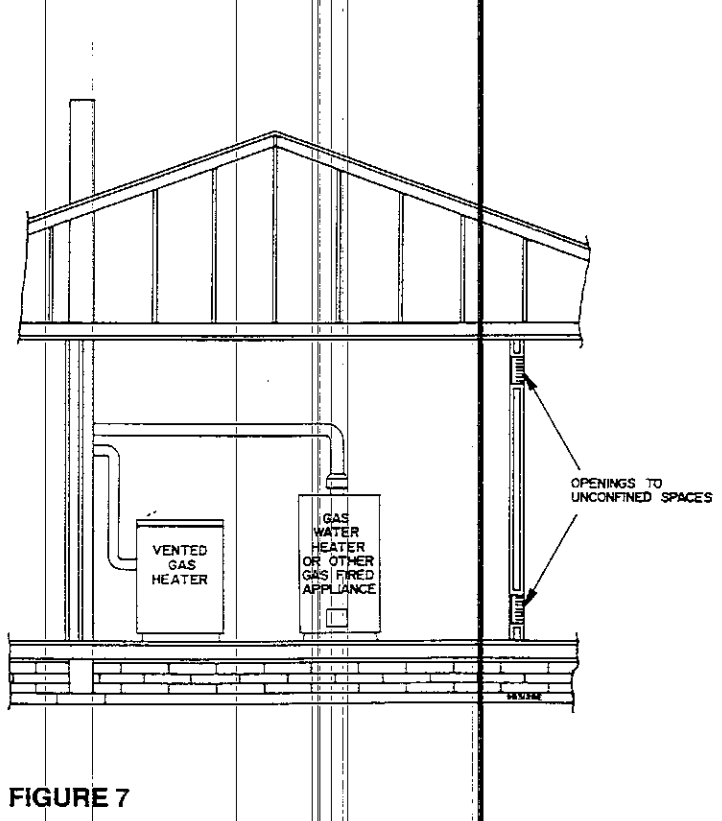


FIGURE 7

Use only an approved thimble through the wall into the chimney to prevent fire. Before connecting the heater vent to the chimney, clean and check the chimney carefully to be sure it is in good repair. The internal area of the chimney must be greater than the area of the heater flue outlet.

WARNING: DO NOT CONNECT THIS HEATER TO A CHIMNEY FLUE SERVING A WOOD OR COAL BURNING APPLIANCE. TO DO SO MAY LEAD TO CARBON MONOXIDE PRODUCTION.

Any horizontal run of vent material must slope upward a minimum of 1/4 inch per foot.

The top of the chimney must extend a minimum of three feet above the roof line and a minimum of two feet above any portion of the roof withhin ten feet. This is to ensure that the vent draws properly.

Do not extend the vent pipe material into the chimney more than one inch. To do so may cause a restriction of flue product with production of poisonous carbon monoxide.

If the heater is installed directly in front of a fireplace opening and vented into the fireplace opening, the fireplace damper must be removed or permanently locked open and the front of the fireplace sealed with a metal cover. The connector pipe from the heater must pass through this metal cover and be securely fastened.

Use only an approved vent cap or cowl on the chimney top. This cap or cowl is to prevent rain and snow from entering the chimney and to prevent obstruction of the chimney by leaves. bird's nest. etc.

Combustion and Ventilation Air Requirement

All gas fired room heaters require air from the room for combustion and ventilation. Normally, air infiltration into the building is adequate to supply this air. Special provisions for supplying outside air for the heater are not required unless the building is constructed unusually tight. Local building inspectors can be consulted for help in determining if a building requires provisions for supplying outside air for this heater. Should it be determined that provisions for outside air are required, the following information should be followed in the absence of local codes.

In accordance with the National Fuel Gas Code ANSI Z223.1 room heaters are not to be installed in a confined space without adequate provisions for air circulation into and away from the area being heated. The National Fuel Gas Code defines a confined space as a space with a volume less than 50 cubic feet per 1,000 Btu per hour of the total input rating of all appliances installed in that space. The Code defines an unconfined space as a space with a volume not less than 50 cubic feet per 1,000 Btu per hour of the total input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed, through openings not equipped with doors, are considered a part of the unconfined space. For example, three rooms in a house are adjoining with interconnecting passageways but no doors. each room has 8 foot ceilings. one room is 16 x 12 feet. one is 12 x 12 feet and another is 10 x 14 feet. The total volume of the three rooms is 3,808 cubic feet. The total maximum input rating of all gas fired appliances installed in this area must not exceed 76,160 Btu per hour. (3,808 divided by 50 times 1,000).

When the area to be heated is smaller than the area defined as "unconfined" for the particular heater chosen, adequate provisions must be made for air into the area in which the heater is located. The National Fuel Gas Code requires a minimum of two permanent openings. one commencing within 12 inches of the top another commencing within 12 inches of the bottom of the enclosure in which the heater is located. These openings must have a minimum opening of one square inch per 1,000 Btu per hour total input of all gas fired appliances in the enclosed area but never less than 100 square inches. These openings must be into areas providing sufficient area to meet the "unconfined space" definition. (See figure 7.)

In many cases. other restrictions and regulations concerning air provisions to a heater apply. Check with your local building inspector and refer to the National Fuel Gas Code ANSI Z223.1 to be sure your installation complies.

WARNING: IF USED IN AN AREA WITH INSUFFICIENT FRESH AIR SUPPLY. THIS HEATER CAN PRODUCE DEADLY CONCENTRATIONS OF CARBON MONOXIDE GAS.

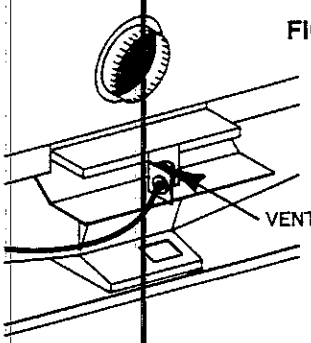
VENT SHUTOFF SYSTEM

This heater is equipped with a vent shutoff system that will cause the main burner and pilot to shut off if the heater is not connected to a properly functioning vent. The vent switch is positioned over the draft hood opening, as shown by figure 8, to cause the main burner and pilot to shut off if the vent is not working properly.

If the main burner and pilot of this heater shut off, discontinue the use of the heater and have the venting system inspected, tested and corrected by a competent serviceperson.

WARNING: ANY TAMPERING WITH THE VENT SHUTOFF SYSTEM OR CONTINUED USE OF THE HEATER WITH A POORLY FUNCTIONING VENT CAN LEAD TO CARBON MONOXIDE POISONING AND POSSIBLE DEATH.

FIGURE 8



INSTALLATION AND ADJUSTMENT OF THE HEATER

1. Select a location for the heater according to the considerations given in the "Selecting a Location for the Heater" section of this manual.
2. Install the gas piping. Figure 3 illustrates a typical gas piping diagram.
3. If the heater is to be equipped with an optional accessory blower, install the blower according to the instructions packaged with the blower.
4. Connect the heater to a properly constructed and maintained vent by slipping the vent connector pipe over the vent connector on the rear of the heater and securing it with a minimum of two screws.
5. Turn the control knob to the "DEPRESS FOR OFF" position and fully depress it.
6. Open the gas valves to apply gas pressure to the control.
7. Check for leaks at all gas line connections with a soap and water or a liquid leak detecting solution. DO NOT USE A FLAME TO CHECK FOR LEAKS. CHECKING FOR LEAKS WITH A FLAME CAN CAUSE AN EXPLOSION. If a leak is detected, turn the gas off immediately and make the necessary repairs.
8. Open the control access door and loosen the screw in the end of the burner and rotate the air shutter so that the openings in the end of the burner are half closed.
9. Refer to the LIGHTING AND OPERATION section of this manual. Carefully read the safety information, then light the pilot according to the instructions. The pilot flame should appear as indicated by figure 9.
10. Turn the thermostat to the highest number setting.
11. Observe the burner flame and if the base of the flame is not in contact with the burner, slowly rotate the air shutter to cover more of the burner openings until the flame settles on the burner.
12. While the heater is warming up, check for gas leaks at the points where the pilot tubing and burner manifold attach to the control. If leaks are observed, turn the gas off immediately and make the necessary repairs or adjustments.
13. Allow the heater to heat up for 10 minutes and adjust the air shutter toward the more closed position until a slight yellow tip appears on the flame, then open the shutter slowly until the yellow tip disappears. A properly adjusted burner flame should be blue with a few red and orange streaks caused by dust particles in the air as shown by figure 10. If the flame sputters or the flame lifts off the burner, too much air is entering the burner.
14. Tighten the screw to hold the air shutter in place.
    WARNING: DO NOT ATTEMPT TO ALTER THE MINIMUM RATE OF THIS CONTROL SYSTEM.
    The minimum rate is set at the factory and tampering with this setting will void the warranty on the control.
15. Check for proper operation of the vent by passing a lighted cigarette, match or taper along the draft hood openings as shown by figure 11. If the vent is functioning properly, the smoke will be drawn into the draft hood. If the smoke is pushed away from the draft hood, the vent system is not operating properly and the heater should be turned off immediately and corrections made.

FIGURE 9

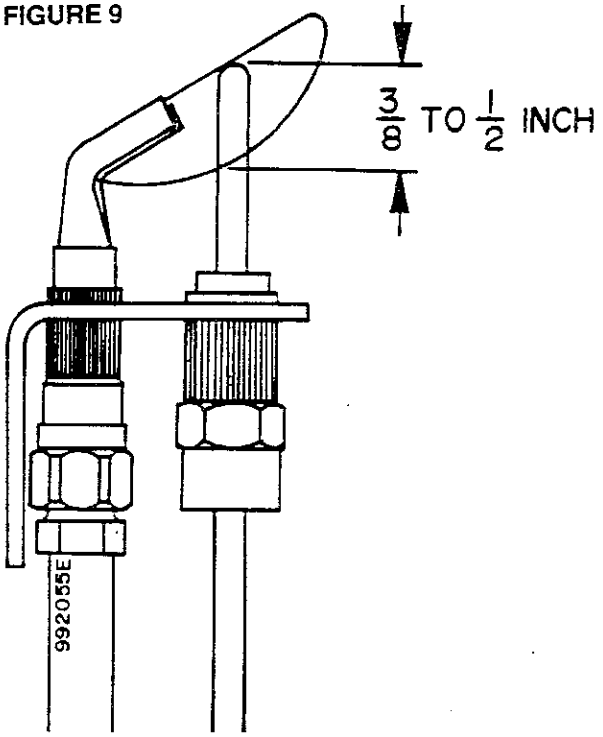


FIGURE 10

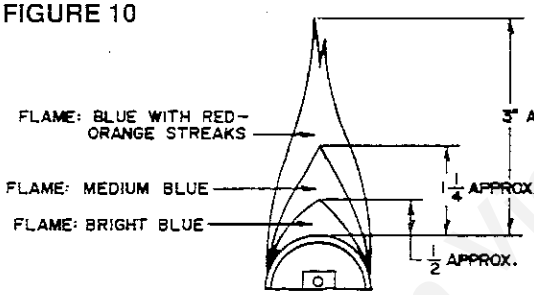
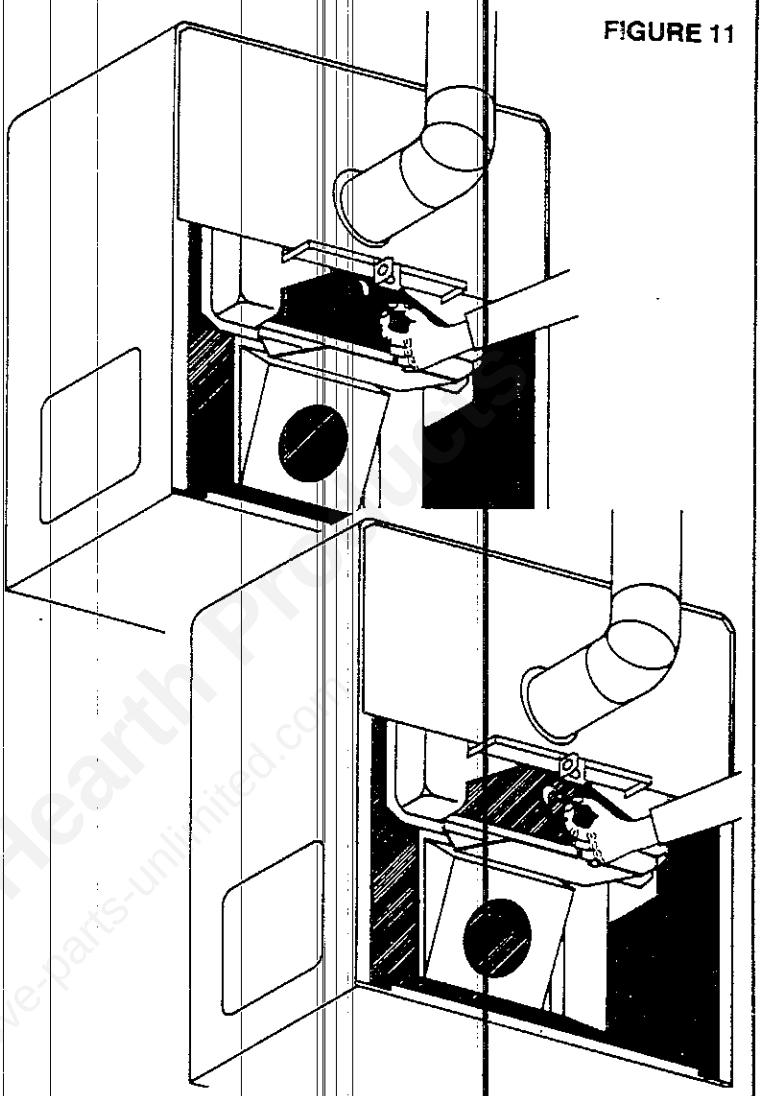


FIGURE 11



FOR YOUR SAFETY READ BEFORE LIGHTING

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

A. THIS APPLIANCE HAS A PILOT WHICH MUST BE LIGHTED BY HAND. WHEN LIGHTING THE PILOT, FOLLOW THESE INSTRUCTIONS EXACTLY.

B. BEFORE LIGHTING SMELL ALL AROUND THE APPLIANCE AREA FOR GAS. BE SURE TO SMELL NEXT TO THE FLOOR BECAUSE SOME GAS IS HEAVIER THAN AIR AND WILL SETTLE ON THE FLOOR.

WHAT TO DO IF YOU SMELL GAS:

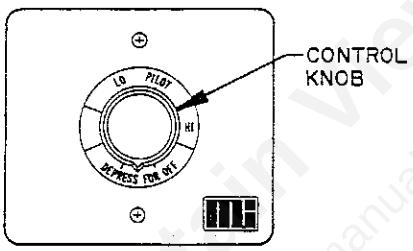
- DO NOT TRY TO LIGHT ANY APPLIANCE.
- DO NOT TOUCH ANY ELECTRIC SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
- IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBORS PHONE. FOLLOW THE GAS SUPPLIERS INSTRUCTIONS.
- IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

C. USE ONLY YOUR HAND TO PUSH IN OR TURN THE GAS CONTROL KNOB. NEVER USE TOOLS. IF THE KNOB WILL NOT PUSH IN OR TURN BY HAND, DON'T TRY TO REPAIR IT. CALL A QUALIFIED SERVICE TECHNICIAN. FORCE OR ATTEMPTED REPAIR MAY RESULT IN A FIRE OR EXPLOSION.

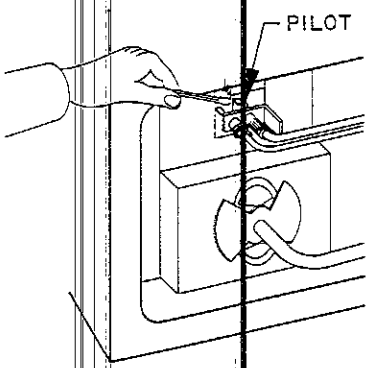
D. DO NOT USE THIS APPLIANCE IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE APPLIANCE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL WHICH HAS BEEN UNDER WATER.

LIGHTING INSTRUCTIONS

1. STOP! READ THE SAFETY INFORMATION ON THE FIRST LABEL.
2. WARNINGS: OPERATE THE CONTROL VALVE ONLY WITH THE KNOB ILLUSTRATED.
3. TURN THE CONTROL KNOB TO "DEPRESS FOR OFF". FULLY DEPRESS THE KNOB.



4. WAIT FIVE (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 THE FIRST LABEL. IF YOU DON'T SMELL GAS, GO TO THE NEXT STEP.
5. TURN THE KNOB CLOCKWISE ↷ TO PILOT (AGAINST A STOP-DO NOT PUSH THE KNOB IN AS YOU TURN).
6. PLACE A BURNING MATCH BETWEEN THE PILOT END AND THERMOCOUPLE. FULLY DEPRESS THE CONTROL KNOB AND HOLD IT DOWN FOR 60 SECONDS AFTER THE PILOT LIGHTS. RELEASE THE KNOB AND IT WILL POP BACK UP. THE PILOT SHOULD REMAIN LIT. IF IT GOES OUT, REPEAT STEPS 2 THROUGH 6.



- IF THE KNOB DOES NOT POP UP WHEN RELEASED, STOP AND IMMEDIATELY CALL YOUR SERVICE TECHNICIAN OR GAS SUPPLIER.
- IF THE PILOT WILL NOT STAY LIT AFTER SEVERAL TRIES, TURN THE GAS CONTROL KNOB COUNTERCLOCKWISE ↶ TO DEPRESS FOR OFF, FULLY DEPRESS IT THEN CALL YOUR SERVICE TECHNICIAN OR GAS SUPPLIER.

7. CLOSE THE PILOT ACCESS COVER.
8. TURN THE KNOB COUNTERCLOCKWISE ↶ TO HI. ADJUST THE KNOB BETWEEN HI AND LO AS DESIRED.

TO TURN OFF GAS TO APPLIANCE

1. TURN KNOB TO "DEPRESS FOR OFF". FULLY DEPRESS THEN RELEASE THE KNOB.
2. IF THE HEATER IS EQUIPPED WITH OPTIONAL BLOWER, TURN OFF ALL ELECTRICAL POWER TO THE HEATER IF SERVICE IS TO BE PERFORMED.

If the heater is equipped with a thermostat, turn the thermostat to the highest setting. When the room reaches the desired temperature, turn the thermostat down until the gas flow to the burner is stopped. At this setting, the control should cycle the gas flow to the burner to maintain the desired temperature.

If the heater is not equipped with a thermostat, the temperature of the room can be controlled by turning the burner on and off at the control knob.

The heater will not be used for several days, turn the gas off at both the control and the gas line shut off valve.

MAINTENANCE OF THE HEATER

The air flowing through the heater will cause dust and lint to collect in the heater. At least once a month and more frequently in abnormally dusty areas, the heater should be cleaned of all dust and lint. Excessive dust accumulation in the heater can cause the pilot to go out or the burner to operate improperly and produce hazardous levels of carbon monoxide. Excessive lint and dust can also catch fire and is a serious fire hazard.

The piping and venting system should also be checked monthly or immediately if the heater is accidentally bumped with sufficient force to move it out of position.

If the heater is equipped with an accessory blower, the blower motor and controls should also be kept free of lint and dust.

The following is a recommended monthly maintenance program:

1. Turn the gas off at the line cut-off valve, open the control access door and allow the heater to completely cool.
2. Blow or vacuum all dust and lint out of the heater paying particular attention to the pilot, air shutter end of the burner, air passage into and through the heater and the control.
3. If the heater is equipped with an accessory blower, unplug it and remove all lint and dust from the motor and controls, and inspect the electrical cord for damage or wear to the insulating covering.
4. Wipe all exterior surfaces of the heater clean with a soft cloth.
5. Check the vent connector pipe for any signs of deterioration.
6. Turn the gas on at the line cut-off valve and light the heater according to the instructions on the inside of the control access door.
7. Check all piping, pilot tubing, and manifold connections for gas leaks with a soap and water or liquid leak detecting solution and if any leaks are observed, turn the gas off immediately and make the necesssary repairs.
8. After the heater has been operating for 10 to 15 minutes, check the burner flame for proper adjustment according to the information provided in step 13 of the Installation and Adjustment section of this manual.
9. After the burner is properly adjusted, check the operation of the vent according to the procedure described in step 15 of the Installation and Adjustment section of this manual.
   NOTE: Any maintenance of the heater that requires disconnection of the heater from the gas line or removal of the control, burner or pilot should only be performed by a qualified person.

MAINTENANCE OF THE VENT SYSTEM

At least once a year, preferably at the beginning of a heating season, the entire venting system should be checked for deterioration, obstructions or any condition that might affect its performance. If any factory built part of the venting system is damaged or deteriorated and requires replacement, use only parts listed for use with the remaining vent system components. The use of unlisted or incompatible components could cause a fire or carbon monoxide hazard.

If the heater is vented into a masonry chimney, the chimney should be checked thoroughly for cracks or loose bricks.

CHECKLIST OF DO'S AND DON'TS

CORRECT INSTALLATION AND SAFE OPERATION OF THIS HEATER REQUIRE, BUT NOT LIMITED TO THESE "DO'S AND DON'TS" OF INSTALLATION AND OPERATION.

DO'S:

1. Do use this heater only on the type of gas for which it is design certified and equipped. The type of gas for which the heater is equipped is stamped on the rating plate on the heater back.
2. Do install this heater and all gas piping and venting material according to local codes or in the absence of local codes, according to National Fuel Gas ANSI Z223.1.
3. Do disconnect or isolate the heater during supply line pressure testing.
4. Do be sure the heater is installed so that the draft hood is located in the same atmospheric pressure zone as the combustion air inlet to the heater.
5. Do locate the heater out of traffic patterns as much as possible and a minimum of 6" away from any combustible wall at the rear and side.
6. Do locate the heater so that a minimum of 24" is left on the control door side for accessibility to the controls and a minimum of 36" clearance will be maintained between front of the heater and any obstruction.
7. Do keep in mind that some furniture materials such as vinyl or plastic may deform at the temperatures near this heater and must be kept at greater distances.
8. Do use a fireproof stoveboard under the heater on carpet, vinyl, linoleum or any flooring other than wood.
9. Do make sufficient outside air provisions into the room in which this heater is installed according to local codes or Z223.1.
10. Do use joint compound (pipe dope) on threaded joints of gas piping that is resistant to the action of liquefied petroleum gas.

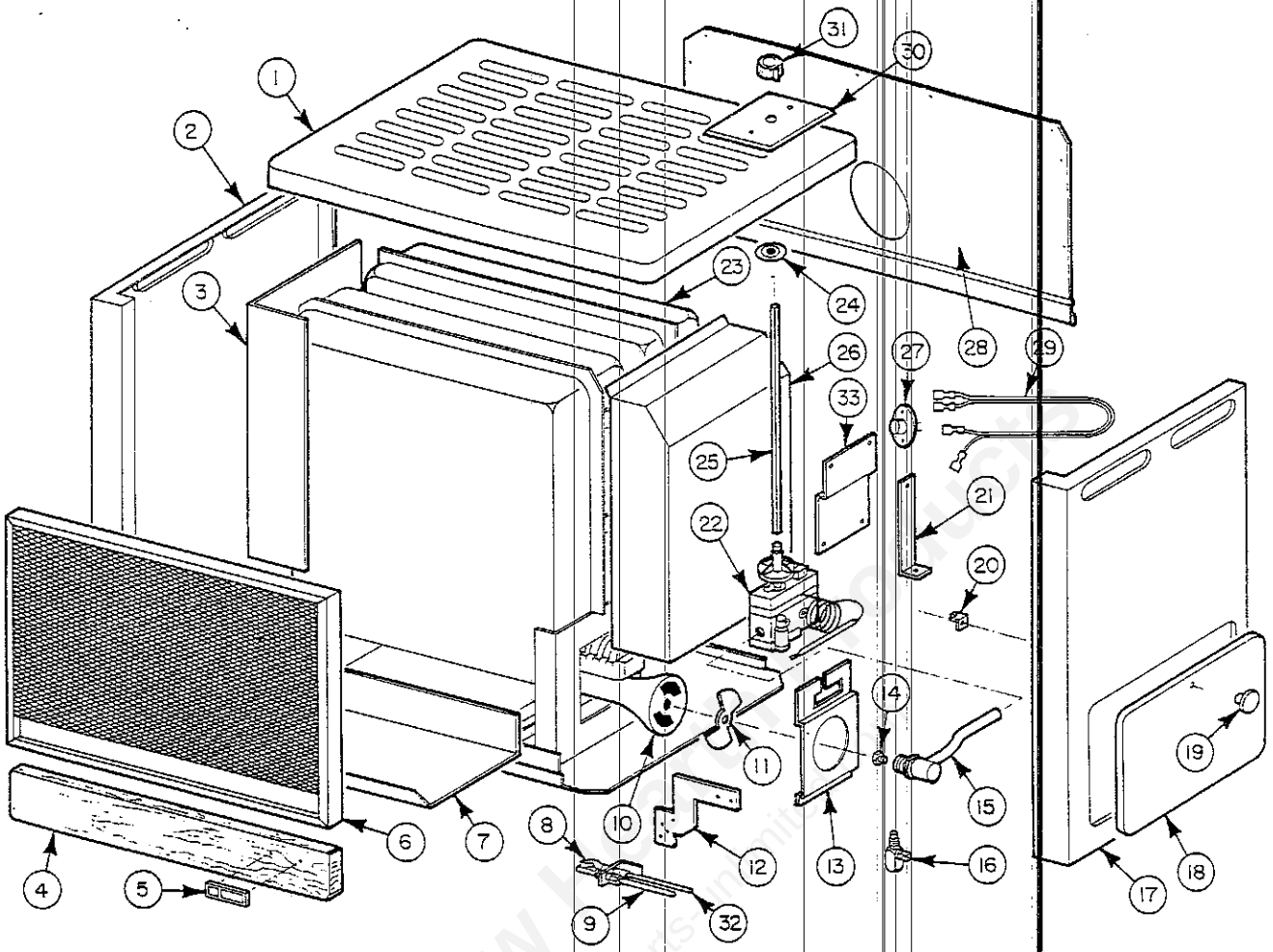
11. Do include a manual shutoff valve and union ahead of the controls so that the controls and heater may be removed for servicing if necessary.
12. Do use only ground joint unions in gas piping.
13. Do include a 1/8 NPT plugged tapping accessible for test gauge connection immediately upstream of the gas supply connection to the heater.
14. Do use only soap-water solution or liquid gas leak solution when checking for leaks in the gas plumbing. Never use matches, candles or other ignition sources when checking for leaks.
15. Do connect the heater to a proper venting system.
16. Do replace any safety guard or screen removed for servicing the appliance before operating the appliance.
17. Do adjust the air shutter as required to produce the proper flame as described by figure 10 of this manual.
18. Do keep the area around the heater clear and free from combustible materials, gasoline and other flammable vapors and liquids.
19. Do follow the lighting and operation procedures given in this manual.
20. Do periodically inspect the pilot and burner flame as described in the maintenance section of this manual
21. Do clean the heater as specified in the maintenance section of this manual.
22. Do oil the motor on the optional blower as specified by the instructions provided with the blower.
23. Do provide electrical grounding of heaters with optional blowers in accordance with local codes and/or the National Electric Code ANSI/NFPA 70-1990.
24. Do inspect the entire venting system at least once a year and replace all parts that show evidence of damage or deterioration.

DON'TS:

1. Don't modify or alter the heater cabinet (jacket) in any way.
2. Don't use this heater on any gas other than the type for which it is equipped. The type of gas for which the heater was equipped at the factory is stamped on the rating plate located on the heater back.
3. Don't install the heater on any flooring other than wood without a fireproof stoveboard under the heater.
4. Don't install the heater in areas where gasoline or any flammable liquid or any explosive materials may be used or stored.
5. Don't locate the heater closer than 6" to any rear or side wall, closer than 36" to any front obstruction, or in any area where the ceiling clearance will be less than 50 inches.
6. Don't use candles, matches or any source of ignition when checking for gas leaks.
7. Don't obstruct the flow of air for combustion and ventilation into or away from the heater at any time.
8. Don't operate this heater in a tightly constructed room unless outside air provisions are made according to local codes or the National Fuel Gas Code. ANSI Z223.1. latest edition.
9. Don't operate this heater without factory installed guards or grilles in place.
10. Don't operate this heater with an accessory blower without proper electrical grounding according to local codes or the National Electric Code ANSI/NFPA 70-1990.
11. Don't cut or remove the grounding prong from the plug provided with the optional blower.
12. Don't operate this heater without a proper vent.
13. Don't connect this heater to a chimney flue serving a solid fuel burning appliance.
14. Don't tamper with the vent shutoff system.
15. Don't use this room heater if any part has been under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.

WHILE THE MANUFACTURER HAS MADE EVERY REASONABLE EFFORT TO ENSURE THAT THIS HEATER OPERATES PROPERLY AND SATISFACTORILY, SOMETIMES PROBLEMS DO ARISE. THE FOLLOWING TROUBLE-SHOOTING CHART LISTS SEVERAL PROBLEMS WITH THEIR PROBABLE CAUSE AND REMEDY. ANY ADJUSTMENTS AND/OR REPLACEMENTS MUST BE BY A QUALIFIED PERSON. DO NOT REPLACE ANY COMPONENT WITH A DIFFERENT TYPE. USE ONLY COMPONENTS SUPPLIED BY THE MANUFACTURER FOR THIS HEATER.

TROUBLE	PROBABLE CAUSE	REMEDY
FLAME TOO LARGE	1. PRESSURE REG. SET TOO HIGH. 2. DEFECTIVE REGULATOR. 3. BURNER ORIFICE TOO LARGE.	1. RESET, USING MANOMETER. 2. REPLACE. 3. REPLACE WITH CORRECT SIZE.
NOISY FLAME	1. TOO MUCH PRIMARY AIR. 2. NOISY PILOT. 3. BURR IN ORIFICE.	1. ADJUST AIR SHUTTERS. 2. REDUCE PILOT GAS. 3. REMOVE BURR OR REPLACE.
YELLOW TIP FLAME	1. TOO LITTLE PRIMARY AIR. 2. CLOGGED BURNER PORTS. 3. MISALIGNED ORIFICES. 4. CLOGGED DRAFT HOOD OR VENT SYSTEM.	1. ADJUST AIR SHUTTERS. 2. CLEAN PORTS. 3. REALIGN OR REPLACE BURNER. 4. CLEAN.
FLOATING FLAME	1. BLOCKED VENTING. 2. INSUFFICIENT PRIMARY AIR.	1. CLEAN. 2. ADJUST AIR SHUTTER.
DELAYED IGNITION	1. IMPROPER PILOT LOCATION. 2. PILOT FLAME TOO SMALL. 3. BURNER PORTS CLOGGED. 4. LOW PRESSURE.	1. REPOSITION PILOT. 2. CHECK ORIFICE. INCREASE GAS. 3. CLEAN PORTS. 4. ADJUST PRESSURE REGULATOR.
FAILURE TO IGNITE	1. MAIN GAS OFF. 2. DEFECT IN GAS VALVE. 3. DEFECTIVE THERMOSTAT.	1. OPEN MANUAL VALVE. 2. REPLACE. 3. REPLACE.
BURNER WON'T TURN OFF	1. DEFECTIVE THERMOSTAT. 2. DEFECTIVE AUTO. VALVE.	1. REPLACE. 2. CLEAN OR REPLACE.
BURNER WON'T TURN ON	1. DEFECTIVE AUTO. VALVE. 2. DEFECTIVE THERMOCOUPLE. 3. DEFECTIVE THERMOSTAT. 4. DEFECTIVE AUTO. PILOT VALVE.	1. REPLACE. 2. REPLACE. 3. REPAIR OR REPLACE. 4. REPLACE.
NOT ENOUGH HEAT	1. THERMOSTAT SET TOO LOW. 2. HEAT SOURCE CLOSE TO THERMOSTAT. 3. THERM. OUT OF CALIBRATION.	1. RAISE SETTING. 2. MOVE HEAT SOURCE AWAY. 3. RECALIBRATE OR REPLACE.
TOO MUCH HEAT	1. THERMOSTAT SET TOO HIGH. 2. THERM. OUT OF CALIBRATION. 3. VALVE STICKS OPEN.	1. LOWER SETTING. 2. RECALIBRATE OR REPLACE. 3. REPLACE VALVE.
BURNER & PILOT FLAME GO OUT	1. POORLY FUNCTIONING VENT SYSTEM. 2. GAS SUPPLY INTERRUPTED. 3. DEFECTIVE THERMOCOUPLE OR CONTROL.	1. IF PILOT CAN BE RELIT BUT MAIN BURNER AND PILOT GO OFF AFTER IGNITION, HAVE VENT SYSTEM CHECKED AND CORRECTED IMMEDIATELY. 2. ATTEMPT TO RELIGHT PILOT & MAIN BURNER. IF UNABLE TO RELIGHT PILOT, CHECK THERMOCOUPLE AND/OR CONTROL. 3. REPLACE.



ORDER ALL REPAIR PARTS FROM YOUR MARTIN DEALER BY SUPPLYING THE FOLLOWING INFORMATION

1. PART NAME 2. PART NUMBER (Not Key No.) 3. MODEL NUMBER

KEY NO.	PART NAME	QTY	PART NUMBER MODEL V6935	MODEL V6950	MODEL V6970
1	Cabinet Top Pntd.	1	048207	048194	048181
2	Cabinet Side (Left) Pntd.	1	048210	048188	048188
3	Radiation Sheild	1	012447	012462	012462
4	Panel Front	1	029133	029105	029095
5	Logo Emblem	1	018084	018084	018084
6	Cabinet Front	1	008685	008686	008687
7	Radiation Shield (Bottom)	1	029730	029733	029736
8	Pilot (Nat. Gas Only)	1	012563	012563	012563
	Pilot (LP Gas Only)	1	012562	012562	012562
9	Thermocouple & Lead	1	P4017	P4017	P4017
10	Burner	1	029131	029054	029093
11	Mixer Cap	1	G12120	G12120	G12120
12	Bracket Pilot	1	024322	024322	024322
13	Removable Burner Plate	1	002730	002191	002191
14	Burner Orifice (NAT)	1	P4916	P4920	P4922
	Burner Orifice (LP)	1	P4917	P4921	P4923
15	Manifold	1	031880	031880	031880
16	Adaptor Thermocouple	1	031946	031946	031946

KEY NO.	PART NAME	QTY	PART NUMBER MODEL V6935	MODEL V6950	MODEL V6970
17	Cabinet Side (Right) Pntd.	1	048204	048134	048134
18	Door Pntd.	1	048138	048138	048138
19	Door Knob	1	P6040	P6040	P6040
20	Roller Catch	1	P517	P517	P517
21	Control Bracket	1	032029	032029	032029
22	Control (NAT)	1	032058	031943	032043
	Control (LP)	1	032064	032036	032049
23	Inner Unit	1	029134	029056	029098
24	Clip	2	029640	029640	029640
25	Control Rod	1	032056	031941	031941
26	Shield Radiation Ptd.	1	029138	029065	029065
27	Switch Vent Safety	1	038684	038684	038685
28	Cabinet Back	1	029130	029053	029092
29	Harness Wiring	1	029104	029104	032078
30	Plate Control Screened	1	047932	047932	047932
31	Knob	1	P6182	P6182	P6182
32	Pilot Tubing	1	P1004	P1004	P1004
33	Bracket Control	1	032028	032028	032028