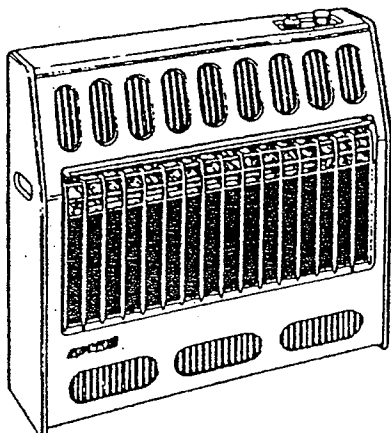
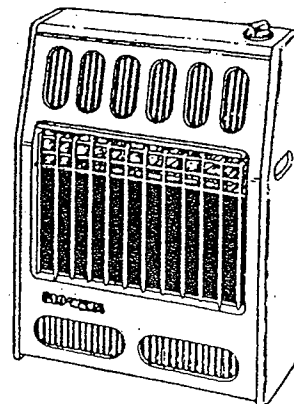


BLUE FLAME UNVENTED NATURAL GAS / PROPANE



GLO-WARM
GAS HEATER



OWNER'S OPERATION AND INSTALLATION MANUAL

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

WARNING: This is an unvented, gas fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation must be provided. Refer to pages 4-5 of this manual.

⚠ WARNING: IMPORTANT FOR YOUR SAFETY

Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for correct installation and operation procedures. For assistance or additional information, consult a qualified installer, service agency, or the gas supplier.

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

SAVE THIS MANUAL FOR FUTURE REFERENCE

- CAREFULLY READ THIS MANUAL TO UNDERSTAND ALL INSTRUCTIONS ABOUT HOW TO INSTALL AND OPERATE THIS GAS HEATER.
 - NEVER USE THIS HEATER IN BEDROOMS, AUTOMOBILES, TRAILERS, RECREATIONAL VEHICLES OR MOBILE HOMES (SEE EXCEPTIONS BELOW).
- ALWAYS KEEP THIS MANUAL FOR REFERENCE.

EXCEPTIONS: FA-60BA and FB-60BA may be used in a bathroom, bedroom or mobile home. Check local codes prior to installation. FA-10BA, FB-10BA, FAS-10BA, and FBS-10BA may be used in a bedroom or mobile home. Check local codes prior to installation.

Customer Information Line: 1-800-972-7879

Please have model number and serial number ready when calling.

DESA INTERNATIONAL 2701 Industrial Drive, Bowling Green, KY, 42101

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SAFETY INFORMATION

⚠️ WARNINGS ⚠️

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate, or service this heater. Improper use of this heater can cause serious injury or death from burns, fire, explosion, electrical shock, and carbon monoxide poisoning.

DANGER

Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, the heater may not be working properly. ***Get fresh air at once!*** Have heater serviced. Some people are more affected by carbon monoxide than others (i.e. pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes).

Fuel Gas: Natural Gas and Propane Gas are odorless fuel gases. An odor-making agent is added to the fuel gas. The odor helps you detect a fuel gas leak. However, the odor added to fuel gas can fade. Fuel gas may be present even though no odor exists.

Make certain you read and understand all Warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

SAFETY INFORMATION *continued...*

WARNINGS

continued...

WARNING: Any change to this heater or its controls can be dangerous.

1. Use *only the gas specified*. Do not convert heater to use different fuel type.
2. If you smell gas:
 - shut off gas supply
 - 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
3. This heater shall not be installed in a bedroom or a bathroom, unless specified in *Exceptions*, page 1.
4. **Never** install the heater:
 - in a recreational vehicle (unless specified in *Exceptions*, page 1)
 - where curtains, furniture, or other flammable objects are less than 36 inches from the front, top, and sides of the heater
 - as a fireplace insert
 - in high traffic areas
 - in windy or drafty areas
5. This heater needs *fresh, outside air ventilation* to run properly. This heater has an oxygen depletion sensor (ODS) pilot light safety system. The ODS shuts down the heater if not enough fresh air is available. See *Fresh Air for Combustion and Ventilation*, pages 4-5.
6. **Never** run heater in small, closed room. Open door into next room to help ventilate.
7. If heater shuts off, do not relight until you provide fresh, outside air. If heater keeps shutting off, have it serviced.
8. Do not run heater:
 - where flammable liquids or vapors are used or stored
 - under dusty conditions
9. **Never** place any objects on the heater.
10. Surface of heater becomes *very hot* when heater is in use. Keep children and adults away from hot surface to avoid burns or clothing ignition. Heater will remain hot for a time after shut-down. Allow surface to cool before touching.
11. Carefully supervise young children when they are in the same room with heater.
12. Make sure grill guard or glass panel is in place before using heater.
13. Do not use 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.
14. Turn off and unplug heater and let cool before servicing. Only a qualified service person should service and repair heater.
15. Operating heater above elevations of 4,500 feet may cause pilot outage.

FRESH AIR FOR COMBUSTION AND VENTILATION

WARNING

This heater must have fresh air for proper operation. If not, poor fuel combustion could result. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

Today's homes are built more energy efficient than ever. New materials, increased insulation, and new construction methods help reduce heat loss in homes. Home owners weather-strip and caulk around windows and doors to keep the cold air out and the warm air in. During the heating months, home owners want their homes as airtight as possible.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireplaces, clothes dryers, and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

PRODUCING ADEQUATE VENTILATION

All spaces in homes fall into one of the three following ventilation classifications: 1. *Unusually Tight Construction*; 2. *Unconfined Space*; 3. *Confined Space*.

The information on pages 4 and 5 will help you classify your space and provide adequate ventilation.

Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

- a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm or less with openings gasketed or sealed and
- b. weather stripping has been added on openable windows and doors and
- c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical, and gas lines, and at other openings.

If your home meets all of the three criteria above, you must provide additional fresh air (see worksheet on page 5). If your home does not meet all of the three criteria above, continue reading.

Confined and Unconfined Space

The National Fuel and Gas Code (ANSI Z223.1, 1992 Section 5.3) defines a confined space as a space whose volume is less than 50 cubic feet per 1,000 Btu per hour *4.8 m³ per kw) of the aggregate input rating of all appliances installed in that space and unconfined space as a space whose volume is not less than 50 cubic feet per 1,000 Btu per hour (4.8 m³ per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed*, through openings not furnished with doors, are considered a part of the unconfined space.

This heater shall not be installed in a confined space or unusually tight construction unless provisions are provided for adequate combustion and ventilation air.

*Adjoining rooms are communicating only if there are doorless passageways or ventilation grills between them.

FRESH AIR FOR COMBUSTION AND VENTILATION *continued...*

DETERMINING FRESH-AIR FLOW FOR HEATER LOCATION

Determining if You Have a Confined or Unconfined Space

Use this worksheet to determine if you have a confined or unconfined space.

Space: Includes the room in which you will install heater plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.

- Determine the volume of the space (length x width x height).
Length x Width x Height = _____ cu. ft. (volume of space)
Example: Space size 20 ft. (length) x 16 ft. (width) x 8 ft. (ceiling height) = 2560 cu. ft. (volume of space)
If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.
 - Divide the space volume by 50 cubic feet to determine the maximum Btu/Hr the space can support.
(volume of space) / 50 cu. ft. = (Maximum Btu/Hr the space can support)
Example: 2560 cu. ft. = 51.2 or 51,200 (Maximum Btu/Hr the space can support)
 - Add the Btu/Hr of all fuel burning appliances in the space.

Vent-free heater	_____	Btu/Hr	
Gas water heater*	_____	Btu/Hr	
Gas furnace	_____	Btu/Hr	
Vented gas heater	_____	Btu/Hr	
Gas fireplace logs	_____	Btu/Hr	
Other *	+	_____	Btu/Hr
Total	=	_____	Btu/Hr

Example:

Gas water heater	40,000 Btu/Hr
Vent-free heater	+ 18,000 Btu/Hr
Total	= 58,000 Btu/Hr
- *Gas Appliances. Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.
- Compare the maximum Btu/Hr the space can support with the actual amount of Btu/Hr used.
_____ Btu/Hr (maximum the space can support)
_____ Btu/Hr (actual amount of Btu/Hr used)
Example: 51,200 Btu/Hr (maximum the space can support)
58,000 Btu/Hr (actual amount of Btu/Hr used)

The space in the above example is a confined space because the actual Btu/Hr used is more than the maximum Btu/Hr the space can support. You must provide additional fresh air. Your options are as follows:

- Rework worksheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms.
- Vent room directly to the outdoors.
- Install a lower Btu/Hr heater, if lower Btu/Hr size makes room unconfined.

If the actual Btu/Hr used is less than the maximum Btu/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

⚠ WARNING: If the area in which the heater may be operated is smaller than that defined as an unconfined space or if the building is of unusually tight construction, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1, 1992, Section 5.3 or applicable local codes.

INSTALLATION

Notice: This heater is intended for use as supplemental heat. Use this heater along with your primary heating system. Do not install this heater as your primary heat source. If you have a central heating system, you may run system's circulating blower while using heater. This will help circulate the heat throughout the house. In the event of a power outage, you can use this heater as your primary heat source.

NOTICE

A qualified service person must install heater. Follow all local codes.

CHECK GAS TYPE

Use only the gas type specified by the notices located on the heater unit. If your gas supply does not match that required to operate your heater, DO NOT INSTALL HEATER. Call dealer where you bought heater for proper type heater.

INSTALLATION ITEMS

Before installing heater, make sure you have the items listed below.
(For a visual of the gas connection assembly, see Figure 4, page 10)

- piping (check all local codes)
- sealant (resistant to propane gas)
- manual shutoff valve (optional)
- ground joint union
- test gauge connection (optional)
- sediment trap
- tee joint
- pipe wrench

Note: An A.G.A. design-certified manual shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. The A.G.A. design-certified manual shutoff valve is available from your dealer. See *Accessories*, page 24.

LOCATING HEATER

This heater is designed to be mounted on a wall. Mounting hardware is included with heater.

You can locate heater on floor, away from a wall. An optional floor mounting stand, or base is needed. Purchase the base from your dealer. See *Accessories*, page 24.

WARNING: Maintain the minimum clearances shown. If you can, provide greater clearances from floor, ceiling, and joining wall

When mounting heater, ***maintain these minimum clearances*** from the surface of carpeting, curtains, tile, or any other combustible material:

Wall Mounted:	rear panel:	0 inches
	side panels:	6 inches
	top of unit:	36 inches
	floor:	6 inches
Floor Mounted:	rear panel:	0 inches
	side panels:	6 inches
	top of unit:	36 inches
	floor:	0 inches

CAUTION

This heater creates warm air currents. These currents move heat to wall surfaces next to heater. Installing heater next to vinyl or cloth wall coverings or operating heater where impurities in the air (such as tobacco smoke, aromatic candles, cleaning fluids, oil or kerosene lamps, etc.) exist, may discolor walls.

IMPORTANT: Vent-free heaters add moisture to the air. Although this is beneficial, installing heater in rooms without enough ventilation air may cause mildew to form from too much moisture. See *Fresh Air for Combustion and Ventilation*, pages 4-5.

INSTALLATION *continued...*

⚠CAUTION⚠

If you install the heater in a home garage:

- heater pilot and burner must be at least 18 inches above the floor
- locate heater where a moving vehicle will not hit it
- remove all flammable fuels from garage

For convenience and efficiency, install heater

- where there is easy access for operation, inspection and service
- in coldest part of the room

An optional fan kit is available from your dealer. See *Accessories*, page 24. If planning to use fan, locate heater near an electrical outlet.

⚠WARNING⚠

Never install the heater:

- in a bedroom or a bathroom (see *EXCEPTIONS*, page 1)
- in a recreational vehicle
- where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the heater
- as a fireplace insert
- in high traffic areas
- in windy or drafty areas

Installation Guidelines:

1. Be sure that room has fresh air suitable for proper combustion.
2. Houses with loose structures, such as houses made of wood, easily get enough air through the wall spaces and door window frames.
3. With houses of tight structure with storm windows and doors, supply outside air into the room where the heater is installed or use an exhaust fan.
4. For proper combustion in the heater, provide fresh air opening(s) to the room. The opening(s) must have one square inch of free opening for each 1000 BTU/Hr of output (heater to room).
5. Adequate clearances must be provided for accessibility for purposes of servicing and proper operation.
6. This heater shall not be installed in a confined space or unusually tight construction unless provisions are provided for adequate combustion and ventilation air.
7. The National Fuel Gas Code defines a *confined space* as a space whose volume is less than 50 cubic feet per 1000 BTU per hour (4.8 cu. m per kw) of the aggregate input rating of all appliances installed in that space and an *unconfined space* as a space whose volume is not less than 50 cubic feet per 1000 BTU per hour (4.8 cu. m per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed* through openings not furnished with doors are considered a part of the unconfined space.
8. **WARNING:** If the area in which the heater may be operated is smaller than that defined as an unconfined space, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1, 1992 Section 5.3.

* Adjoining rooms are communicating only if there are doorless passageways or ventilation grill between them.

INSTALLATION continued...

INSTALLING TO WALL

A mounting bracket has been included with your heater. You must attach the mounting bracket to the wall before you can hang the heater.

NOTE: Wall anchors, mounting screws, and spacers are in hardware package provided.

Marking Screw Locations:

1. Tape mounting bracket to the wall. Make certain it is level.
2. Mark screw locations on wall.
3. Remove tape and mounting bracket from wall.

Attaching Mounting Bracket To Wall

Wall Stud Method: for mounting to wall studs

1. Drill holes at marked locations using 9/64" drill bit.
2. Place mounting bracket onto wall. Line up last hole on each end of bracket with holes drilled in wall.
3. Insert mounting screws through bracket and into wall studs.
4. Tighten screws until mounting bracket is firmly fastened to wall studs.

Wall Anchor Method: for mounting on hollow or solid walls (concrete/masonry)

1. Drill holes at marked locations using 5/16" drill bit. For solid walls (concrete or masonry), drill at least 1" deep.
2. Fold wall anchor as shown in Figure 1.

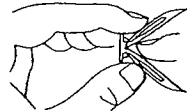


Figure 1

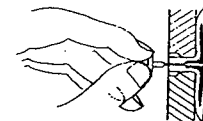


Figure 2

3. Insert wall anchor (wings first) into hole. Tap anchor flush to wall.
4. For thin walls (1/2" or less), insert red key into wall anchor. Push red key to 'pop' open anchor wings (see Figure 2). **IMPORTANT:** Do not hammer key!
For thick walls (over 1/2" thick) or solid walls, do not pop open wings.
5. Place mounting bracket onto wall. Line up mounting bracket with holes.
6. Insert mounting screws through bracket and into wall anchors.
7. Tighten screws until mounting bracket is firmly fastened to wall.

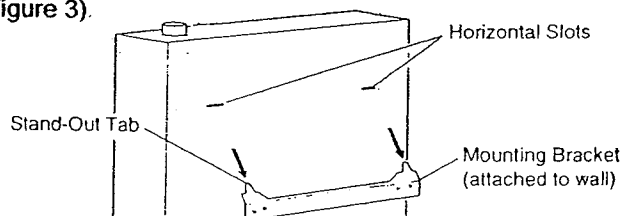
Installing Bottom Mounting Spacers

1. Locate two bottom mounting holes. These holes are near bottom on back panel of heater.
2. Fasten the white plastic spacers to the back panel of the heater with the remaining hardware in the package.

Placing Heater On Mounting Bracket

1. Locate two horizontal slots on back panel of heater.
2. Place heater onto mounting bracket. Slide horizontal slots onto stand-out tabs on mounting bracket (see Figure 3).

Figure 3



CONNECTING TO GAS SUPPLY

NOTICE

A qualified service person must connect heater to gas supply.
Follow all local codes.

⚠WARNING⚠

Never connect heater to private (non-utility) gas wells. This gas is commonly known as well-head gas.

IMPORTANT: Check gas line pressure before connecting heater to gas line. Gas line pressure must be no greater than 14 inches of water column. If gas line pressure is higher, heater regulator damage could occur.

CAUTION

Use only new, black iron or steel pipe. Internally-tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of large enough diameter to allow proper gas volume to heater. If pipe is too small, undue loss of pressure will occur.

Typical Pipe Diameters:

18,000-20,000 BTU/Hr Models
28,000-30,000 BTU/Hr Models

3/8" pipe or greater
1/2" pipe or greater

1. Installation must include a **manual shutoff valve**, **union**, and plugged **1/8" NPT tap**.
2. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from heater (see Figure 4, page 10).
3. Apply **pipe joint sealant** lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged heater valves.

CAUTION

Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.

4. Install **sediment trap** in supply line as shown in Figure 4, page 10. Locate sediment trap where it is within reach for cleaning. Locate sediment trap where trapped matter is not likely to freeze. A sediment trap collects moisture and contaminants. This keeps them from going into heater controls. If sediment trap is not installed or is installed wrong, heater may not run properly.

CONNECTING TO GAS SUPPLY *continued...*

IMPORTANT: Hold the pressure regulator with wrench when connecting it to gas piping and/or fittings.

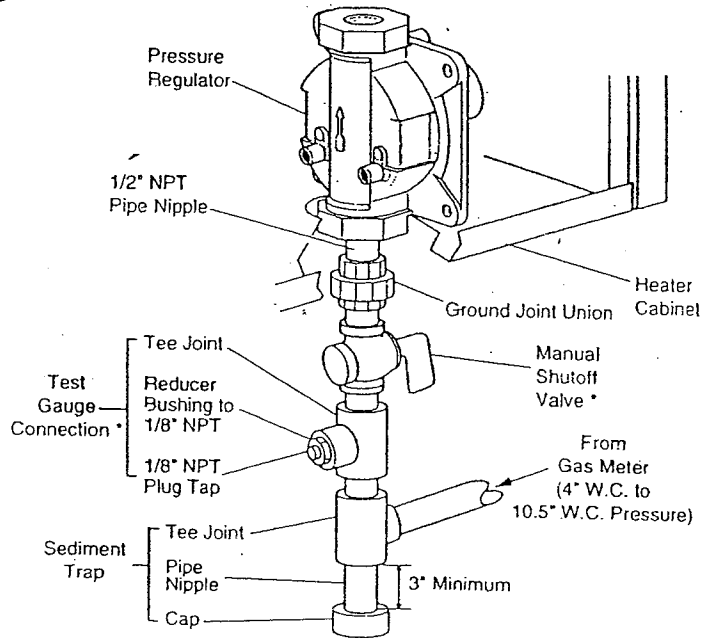


Figure 4

* An A.G.A. design-certified manual shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the optional A.G.A. design-certified manual shutoff valve from your dealer.

CHECKING GAS CONNECTIONS

⚠ WARNING ⚠

Test all gas piping and connections for leaks after installation or servicing.
CORRECT ALL GAS LEAKS IMMEDIATELY.

⚠ WARNING ⚠

Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak.
CORRECT ALL GAS LEAKS IMMEDIATELY.

CHECKING GAS CONNECTIONS *continued...*

PRESSURE TESTING GAS SUPPLY PIPING SYSTEM

Test Pressures In Excess Of 1/2 PSIG

1. Disconnect heater and its individual manual shutoff valve from gas supply piping system. Pressures in excess of 1/2 psig will damage heater regulator.
2. Cap off open end of gas pipe where manual shutoff valve was connected.
3. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
4. Check all joints of gas supply piping system. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks immediately.

Test Pressures Equal To or Less Than 1/2 PSIG

1. Close manual shutoff valve (see Figure 5).
2. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
3. Check all joints from gas meter to manual shutoff valve (see Figure 6). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
4. Correct all leaks immediately.

PRESSURE TESTING HEATER GAS CONNECTIONS

1. Open manual shutoff valve (see Figure 5).
2. Open main gas valve located on or near gas meter.
3. Make sure control knob of heater is in the OFF position.
4. Check all joints from manual shutoff valve to thermostat gas valve on thermostat models, or control valve on non-thermostat models (see Figure 6). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks immediately.
6. Light heater (see *Operating Heater*, pages 12 through 16). Check the rest of the internal joints for leaks.
7. Turn off the heater.
8. Replace front panel.

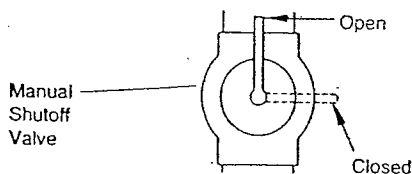


Figure 5

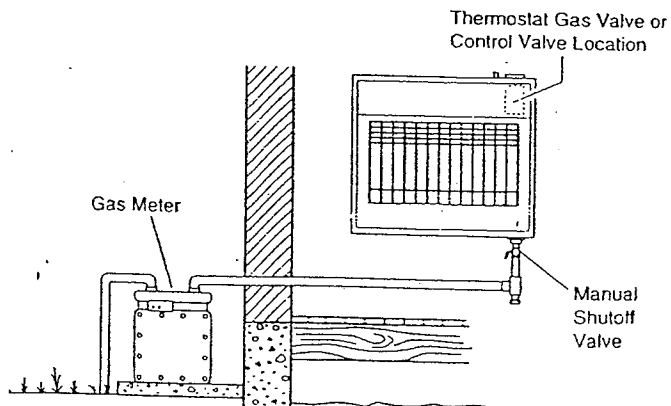


Figure 6

OPERATING HEATER

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 neighbor's phone. Follow the gas supplier's 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 or gas supplier. 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

for Single and Dual Control Thermostat Models

1. STOP! Read the SAFETY INFORMATION above.
2. Make sure manual shutoff valve is fully open.
3. Single: Turn control knob clockwise  to the OFF position (see Figure 7).
Dual: Push in gas control knob slightly and turn clockwise  to the OFF position. Be sure that the temperature setting knob is set at the line between level 1 and level 7 (see Figure 8).

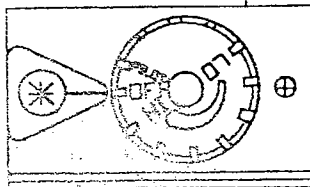


Figure 7

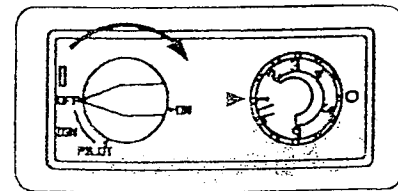




Figure 8

OPERATING HEATER *continued...*

LIGHTING INSTRUCTIONS *continued...* for Single and Dual Control Thermostat Models

4. Wait for five minutes to clear out any gas. Smell for gas, including near the floor. If you smell gas, STOP! Follow instructions above on what to do if you smell gas. If you do not smell gas, continue on to the next step.
 5. *Single:* Turn control knob counterclockwise  to the Pilot position. Press in control knob for five seconds. This will allow air to bleed from the system (see Figure 9).
(If control knob does not pop up when released, contact a qualified service person for repairs.)
Dual: Push in gas control knob slightly and turn counterclockwise  to the PILOT position. Press in control knob for five seconds. This will allow air to bleed from the system (see Figure 10)
- NOTE:** It may be necessary to press for thirty seconds if this is first time heater is connected to the gas supply.

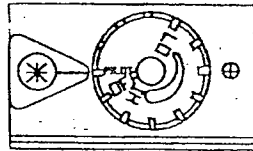


Figure 9

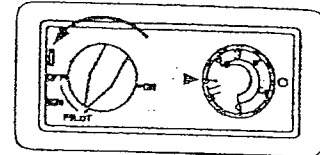




Figure 10

6. *Single:* With control knob pressed in, push down and release ignitor button. This will light pilot. The pilot is attached to the front of the burner and can be seen through the glass panel. If needed, continue to press ignitor button until the pilot lights (see Figure 11).
- Dual:* Release control knob pressure and turn clockwise  to OFF position. Depress control knob while OFF, then turn counterclockwise  back past IGN to PILOT. This should light the pilot (see Figure 12). The pilot is attached to the front of the burner and can be seen through the glass panel. Keep control knob depressed for ten seconds before releasing. If the pilot does not light, repeat steps 5 and 6, or use a match.

NOTE: If pilot does not stay lit, refer to TROUBLESHOOTING, pages 19 through 22. Also contact a qualified service person or gas supplier for repairs. Until repairs are made, use a match to light pilot. To light pilot with match, see Manual Lighting Procedure, page 14)

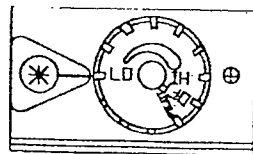


Figure 11

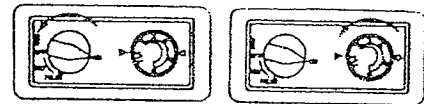




Figure 12

7. *Single:* Keep control knob pressed in for thirty seconds after lighting the pilot. After thirty seconds, release control knob. If pilot goes out, repeat steps 3 through 7.
Dual: When the pilot is lit, turn the ignition knob to ON position
8. *Single:* Turn control knob counterclockwise  to desired heating level. The main burner should light. Set control knob to desired heat level between HI and LO.
Dual: To select desired heating level, turn the temperature setting knob counterclockwise  between 1 and 7.

OPERATING HEATER *continued...*

LIGHTING INSTRUCTIONS *continued...*


Single and Dual Control Thermostat Models




Do not try to adjust heating levels by using the manual shutoff valve.

TO TURN OFF GAS TO APPLIANCE

Shutting Off Heater

1. Turn control knob clockwise  to the OFF position.
2. Turn off all electric power to the appliance if service is to be performed.

Shutting Off Burner Only (pilot stays lit)

1. Turn control knob clockwise  to the PILOT position

THERMOSTAT CONTROL OPERATION *(Thermostat Models Only)*

The thermostatic control used on these models differs from standard thermostats. Standard thermostats simply turn on and off the burner. The thermostat used on this heater senses the room temperature. The thermostat adjusts the amount of gas flow to the burner. This increases or decreases the burner flame height. At times the room may exceed the set temperature. If so, the burner will shut off. The burner will cycle back on when room temperature drops below the set temperature. The control knob can be set to any heat level between HI and LO.

NOTE: The thermostat sensing bulb measures the temperature of air near the heater cabinet. This may not always agree with room temperature (depending on housing construction, installation location, room size, open air temperatures, etc.). Frequent use of your heater will let you determine your own comfort levels.

MANUAL LIGHTING PROCEDURE

1. Remove front panel
2. Follow steps 1 through 5 under *Lighting Instructions*, page 12.
3. With control knob pressed in, strike match. Hold match to pilot until pilot lights.
4. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
5. Replace front panel.

OPERATING HEATER *continued...*

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 neighbor's phone. Follow the gas supplier's 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 or gas supplier. 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

for Non-Thermostat Models

1. STOP! Read the SAFETY INFORMATION above.
2. Make sure manual shutoff valve is fully open.
3. Turn control knob clockwise  to the OFF position (see Figure 13).
4. Wait five minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow the safety information provided above. If you don't smell gas, go to the next step.

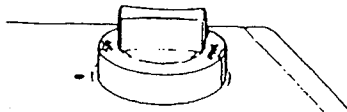





Figure 13

OPERATING HEATER *continued...*

LIGHTING INSTRUCTIONS *continued...* for Non-Thermostat Models

5. Turn control knob counterclockwise  to the PILOT/IGN position. Press in control knob for five seconds.

NOTE: You may be running this heater for the first time after hooking up to gas supply. If so, the control knob may need to be pressed in for 30 seconds. This will allow air to bleed from the gas system. If control knob does not pop up when released, contact a qualified service person for repairs.


6. Release control knob pressure and turn clockwise  to OFF.
7. Depress control knob while OFF, then turn back to PILOT/IGN. This should cause the spark from the piezo ignitor to light the pilot gas. Keep control knob depressed for ten seconds before releasing. If pilot does not stay lit, repeat steps 5, 6, and 7.
8. To light the burner, partially press down the control knob slightly and rotate counterclockwise . Release the downward pressure on the control knob while continuing to turn until the knob is at desired position.

⚠ CAUTION ⚠

Do not try to adjust heating levels by using the manual shutoff valve.

TO TURN OFF GAS TO APPLIANCE

Shutting Off Heater

1. Turn control knob clockwise to the PILOT position.
2. Press in control knob and turn clockwise  to the OFF position (see Figure 14).
3. Turn off all electric power to the appliance if service is to be performed.

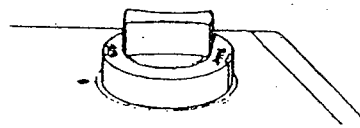



Figure 14

Shutting Off Burner Only (pilot stays lit)

1. Turn control knob clockwise  to the PILOT position

MANUAL LIGHTING PROCEDURE

1. Remove front panel
2. Follow steps 1 through 5 under *Lighting Instructions*, pages 15-16.
3. With control knob pressed in, strike match. Hold match to pilot until pilot lights.
4. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
5. Replace front panel.

INSPECTING BURNER

Check pilot flame pattern and burner flame pattern often.

PILOT FLAME PATTERN

Figure 15 shows a correct pilot flame pattern. Figure 16 shows an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool. When the thermocouple cools, the heater will shut down.

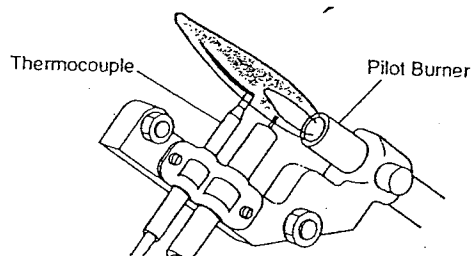


Figure 15

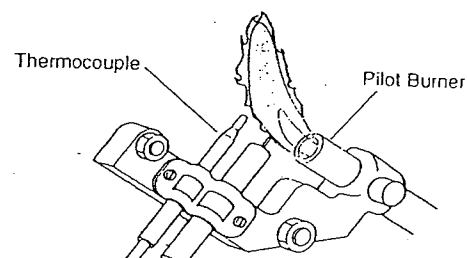


Figure 16

If pilot flame pattern is incorrect, as shown in Figure 16

- turn heater off (see *To Turn Off Gas To Appliance*, page 14 [thermostat model] or page 16 [non-thermostat model])
- see **TROUBLESHOOTING**, pages 19-22.

BURNER FLAME PATTERN

Figure 17 shows a correct burner flame pattern. Figure 18 shows an incorrect burner flame pattern. The incorrect burner flame pattern shows yellow tipping of the flame. It also shows the flame higher than 1/2 the glass panel height.

⚠ WARNING ⚠

If yellow tipping occurs, your heater could produce increased levels of carbon monoxide. If burner flame pattern shows yellow tipping, follow instructions at bottom of this page.

NOTICE

Do not mistake orange flames with yellow tipping. Dirt or other fine particles enter the heater and burn causing brief patches of orange flame.

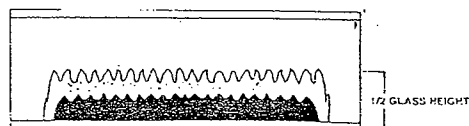


Figure 17

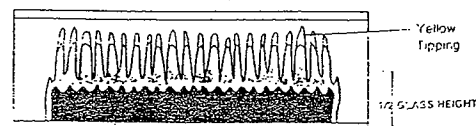


Figure 18

If burner flame pattern is incorrect, as shown in Figure 18

- turn heater off (see *To Turn Off Gas To Appliance*, page 14 [thermostat model] or page 16 [non-thermostat model])
- see **TROUBLESHOOTING**, pages 19-22.

CLEANING AND MAINTENANCE

WARNING!

Turn off heater and let cool before cleaning.

CAUTION

You must keep control areas, burner, and circulating air passageways of heater clean. Inspect these areas of heater before each use. Have heater inspected yearly by a qualified service person. Heater may need more frequent cleaning due to excessive lint from carpeting, bedding material, etc.

ODS/ PILOT AND BURNER

- Use a vacuum cleaner or pressurized air, or small soft bristled brush to clean.

CABINET

Air Passageways

- Use a vacuum cleaner, or pressurized air to clean.

Exterior

- Use a soft cloth dampened with a mild soap and water mixture. Wipe the cabinet to remove dust.



WARNING



IF YOU SMELL GAS:

- Shut off gas supply
- 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.

IMPORTANT: Operating heater where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors.

MAINTENANCE

RESET AND SPACE MAINTENANCE

1. Remove the front panel by removing the two screws along bottom of front panel. Removal of the front panel will expose the inlet piping and the controls.
2. Any safety screen or guard removed for servicing a room heater must be replaced prior to operating the heater.
3. Periodic visual check of burner and pilot flame should be done. Burner and pilot should appear as shown in Figures 16 and 17 on page 17. If the flame appears as shown in Figures 18 and 19 on page 17, shut the heater off and contact a qualified service person or your local dealer.
4. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at inlet pressures in excess of 1/2 psig.
5. Replacement Parts for your heater can be obtained by contacting your local dealer, or **DESA International 2701 Industrial Drive, Bowling Green, KY, 42101**. Please have the model and serial number for your unit ready when calling for Technical Service or Service Parts. See page 23. An Illustrated Parts List is located on pages 25 through 31 of this manual for your convenience in identifying your specific heater components.

CAUTION

WHEN SMELLING GAS ODOR IN HEATER AREA, IMMEDIATELY CLOSE MAIN GAS SHUTOFF VALVE. CALL YOUR LOCAL GAS SUPPLIER FROM A NEIGHBORS PHONE. IF YOU CANNOT REACH THE GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

TROUBLESHOOTING

⚠ WARNING ⚠

TURN OFF AND UNPLUG HEATER AND LET COOL BEFORE SERVICING. ONLY A QUALIFIED SERVICE PERSON SHOULD SERVICE AND REPAIR HEATER

CAUTION

Never use a wire, needle, or similar object to clean ODS/PILOT. This can damage ODS/PILOT unit.

TROUBLESHOOTING *continued...*

OBSERVED PROBLEM:

When ignitor button/control knob is pressed, there is no spark at ODS/ PILOT:

When control knob is pressed in and turned to the PILOT/IGN position, there is a spark at ODS/PILOT, but no ignition:

ODS/PILOT lights, but flame goes out when control knob is released:

POSSIBLE CAUSE:

1. Ignitor electrode positioned wrong
2. Ignitor electrode broken
3. Ignitor electrode not connected to ignitor cable
4. Ignitor cable pinched or wet
5. Piezo ignitor nut is loose
6. Broken ignitor cable
7. Bad piezo ignitor

1. Gas supply turned off or manual shutoff valve closed
2. Control knob not pressed in while being turned to PILOT/IGN position
3. Air in gas lines when installed
4. ODS/PILOT is clogged
5. Gas regulator setting is not correct

1. Control knob not fully pressed in
2. Control knob not pressed in long enough
3. Manual shutoff valve not fully open
4. Thermocouple connection loose at control valve
5. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by one or both of the following:
 - A) Low gas pressure
 - B) Dirty or partially clogged ODS/PILOT
6. Thermocouple damaged
7. Control valve damaged

REMEDY:

1. Replace ignitor
2. Replace ignitor
3. Reconnect ignitor cable
4. Free ignitor cable if pinched by any metal or tubing. Keep cable dry
5. Tighten nut holding piezo ignitor to heater cabinet. Nut is located inside heater cabinet at top
6. Replace ignitor cable
7. Replace piezo ignitor

1. Turn on gas supply or open manual shutoff valve
2. Press in control knob while turning to PILOT/IGN position
3. Continue holding down control knob. Repeat igniting operation until air is removed
4. Clean ODS/ PILOT (see *Cleaning and Maintenance*, page 18-19) or replace ODS/PILOT assembly
5. Replace gas regulator

1. Press in control knob fully
2. After ODS/PILOT lights, keep control knob pressed in 30 seconds
3. Fully open manual shut-off valve
4. Hand tighten until snug, then tighten 1/4 turn more
5. A) Contact your local gas company
B) Clean ODS/PILOT (see *Cleaning and Maintenance*, page 18-19) or replace ODS/PILOT assembly

6. Replace thermocouple
7. Replace control valve

TROUBLESHOOTING *continued...*

OBSERVED PROBLEM:

Burner does not light after ODS/PILOT is lit:

Delayed ignition of burner:

Burner backfiring during combustion:

Yellow flame during burner combustion:

Slight smoke or odor during initial operation:

Heater produces a whistling noise when burner is lit:

Heater produces click or ticking noise just after burner is lit or shut off:

POSSIBLE CAUSE:

1. Burner orifice is clogged
2. Burner orifice diameter is too small
3. Inlet gas pressure is too low

1. Manifold pressure is too low
2. Burner orifice is clogged

1. Burner orifice is clogged or damaged
2. Burner damaged
3. Gas regulator defective

1. Not enough air
2. Gas regulator defective

1. Residues from manufacturing processes

1. Turning control knob to HI position when burner is cold
2. Air in gas line
3. Air passageways on heater blocked
4. Dirty or partially clogged burner orifice

1. Metal expanding while heating or contracting while cooling

REMEDY:

1. Clean burner (see *Cleaning and Maintenance*, page 18-19) or replace burner orifice
2. Replace burner orifice
3. Contact your local gas company

1. Contact your local gas company
2. Clean burner (see *Cleaning and Maintenance*, page 17) or replace burner orifice

1. Clean burner (see *Cleaning and Maintenance*, page 18-19) or replace burner orifice
2. Replace burner
3. Replace gas regulator

1. Check burner for dirt and debris. If found, clean burner (see *Cleaning and Maintenance*, page 18-19)
2. Replace gas regulator

1. Problem will stop after a few hours of operation

1. Turn control knob to LO position and let warm up for a minute
2. Operate burner until air is removed from the line. Have gas line checked by your gas company
3. Observe minimum installation clearances (see *Installation*, page 6)
4. Clean burner (see *Cleaning and Maintenance*, page 18-19) or replace burner orifice

1. This is common with most heaters. If noise is excessive, contact qualified service person

TROUBLESHOOTING *continued...*

OBSERVED PROBLEM:

POSSIBLE CAUSE:

REMEDY:

Heater produces unwanted odors:

1. Heater burning vapors from paint, hairspray, glues, etc.
2. Gas leak.

1. Ventilate room. Stop using odor causing products while heater is running
2. Locate and correct all leaks (see *Checking Gas Connections*, page 10-11)

Heater shuts off in use (ODS operates):

1. Not enough fresh air is available
2. Low gas line pressure
3. ODS/PILOT is partially clogged

1. Open window and/or door for ventilation
2. Contact your local gas company
3. Clean ODS/PILOT (see *Cleaning and Maintenance*, page 18-19)

Gas odor even when control knob is in OFF position:

1. Gas leak.
2. Control valve defective

1. Locate and correct all leaks (see *Checking Gas Connections*, page 10-11)
2. Replace control valve

Gas odor during combustion:

1. Foreign matter between control valve and burner
2. Gas leak.

1. Take apart gas tubing and remove foreign matter
2. Locate and correct all leaks (see *Checking Gas Connections*, page 10-11)

Moisture or condensation noticed on windows:

1. Not enough combustion/ventilation air.

1. Refer to *Fresh Air for Combustion and Ventilation* requirements, page 4-5.

⚠WARNING⚠:

If you smell gas:

- Shut off gas supply
- 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.

TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA International's Technical Services Department for GLO-WARM heaters at **1-800-323-5190**.

SERVICE TIPS

When gas pressure is too low

- pilot will not stay lit
- burner will have delayed ignition
- heater will not produce specified heat

When gas quality is bad

- pilot will not stay lit
- burner will produce flames and soot
- heater will backfire when lit

You may feel your gas pressure is too low or gas quality is bad. If so, contact your local gas supplier.

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

Parts Under Warranty

Contact authorized dealers of this product. If they can't supply original replacement part(s) contact DESA International's Technical Services Department for GLO-WARM Heaters at **1-800-323-5190**.

When calling DESA International, have ready

- your name
- your address
- model number of your heater
- how heater was malfunctioning
- type of gas used (propane or natural)
- purchase date

Usually, we will ask you to return the defective part to the factory.

Parts Not Under Warranty

Contact authorized dealers of this product. If they can't supply original replacement part(s) contact DESA International's Service Parts Department for GLO-WARM Heaters at **1-800-972-7879**.

When calling DESA International, have ready

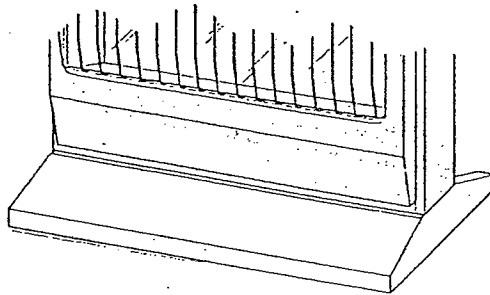
- model number of your heater
- replacement part number (see *Illustrated Parts List*, pages 25-31)

ACCESSORIES

Purchase these heater accessories from your local dealer. If they cannot supply these accessories, call the DESA International Customer Service Department at 1-800-972-7879 for information. You can also write to the address listed on the back page of this manual.

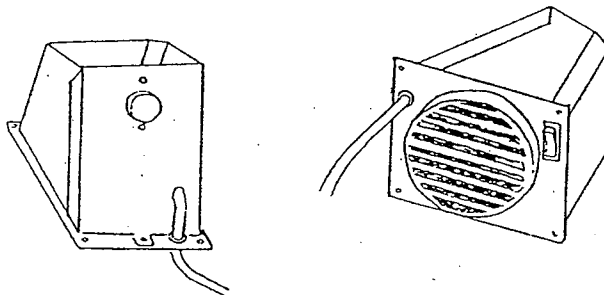
BASE- UH3000BA and UH5000BA

For locating heater on the floor, away from a wall. Complete installation instructions included.



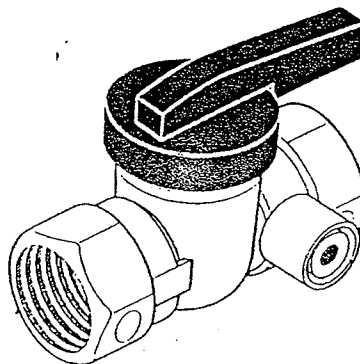
FAN KIT- UH1000FA and UHS1000FA

For all models. Provides better heat distribution. Makes heater more efficient. Complete installation and operating instructions included.



MANUAL SHUTOFF VALVE- GA 5010

For all models. Manual shutoff valve with 1/8" NPT tap.



**ILLUSTRATED
PARTS LIST**
DESA International's
**GLO-WARM
BLUE FLAME
HEATERS**

INSTRUCTIONS:

Please, have model
and serial number
ready when calling for
Technical Services
or Service Parts.
See page 23.

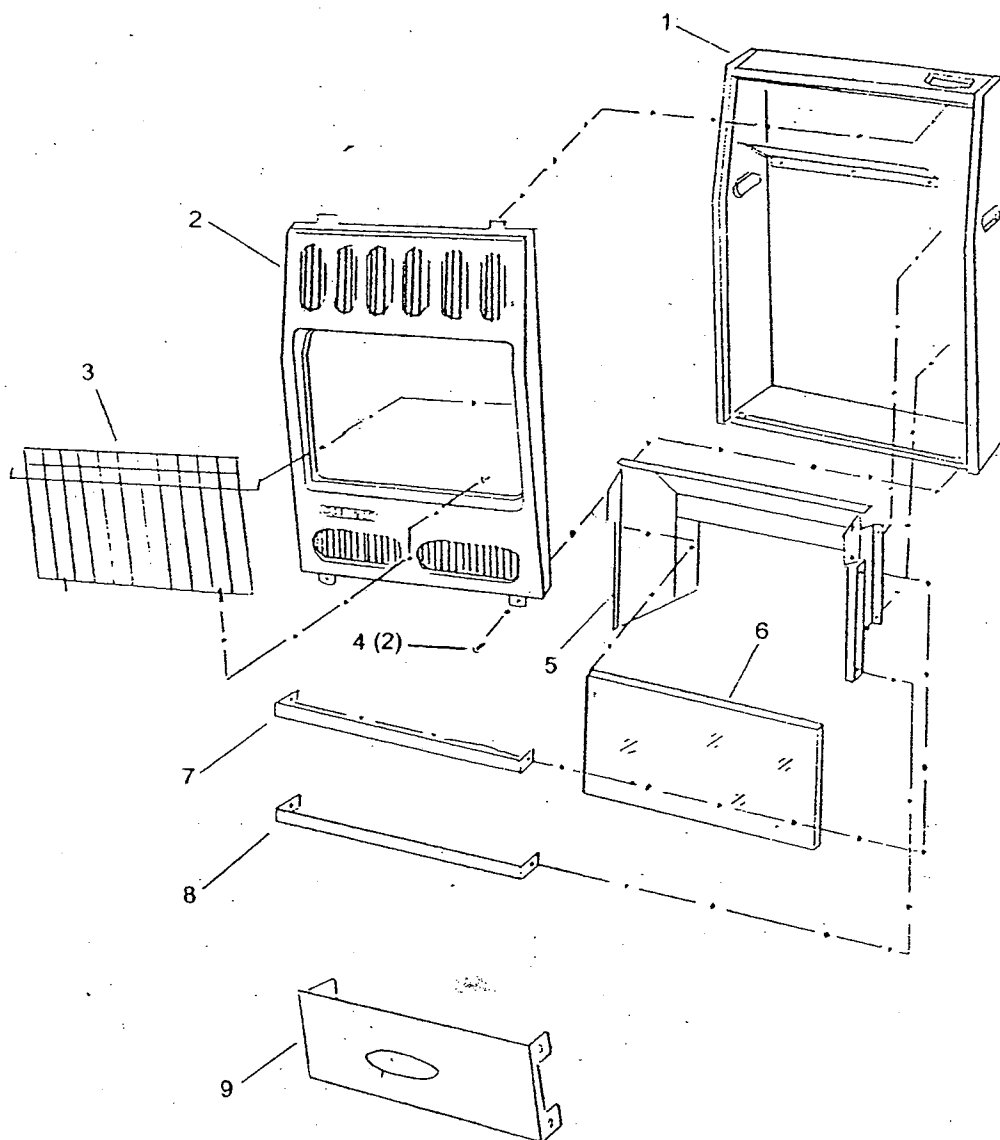
This parts list is
provided to help you
identify your specific
heater components.

The item number at right
corresponds with the
numbers found in the
exploded drawings on
pages 27-31 of this
manual.

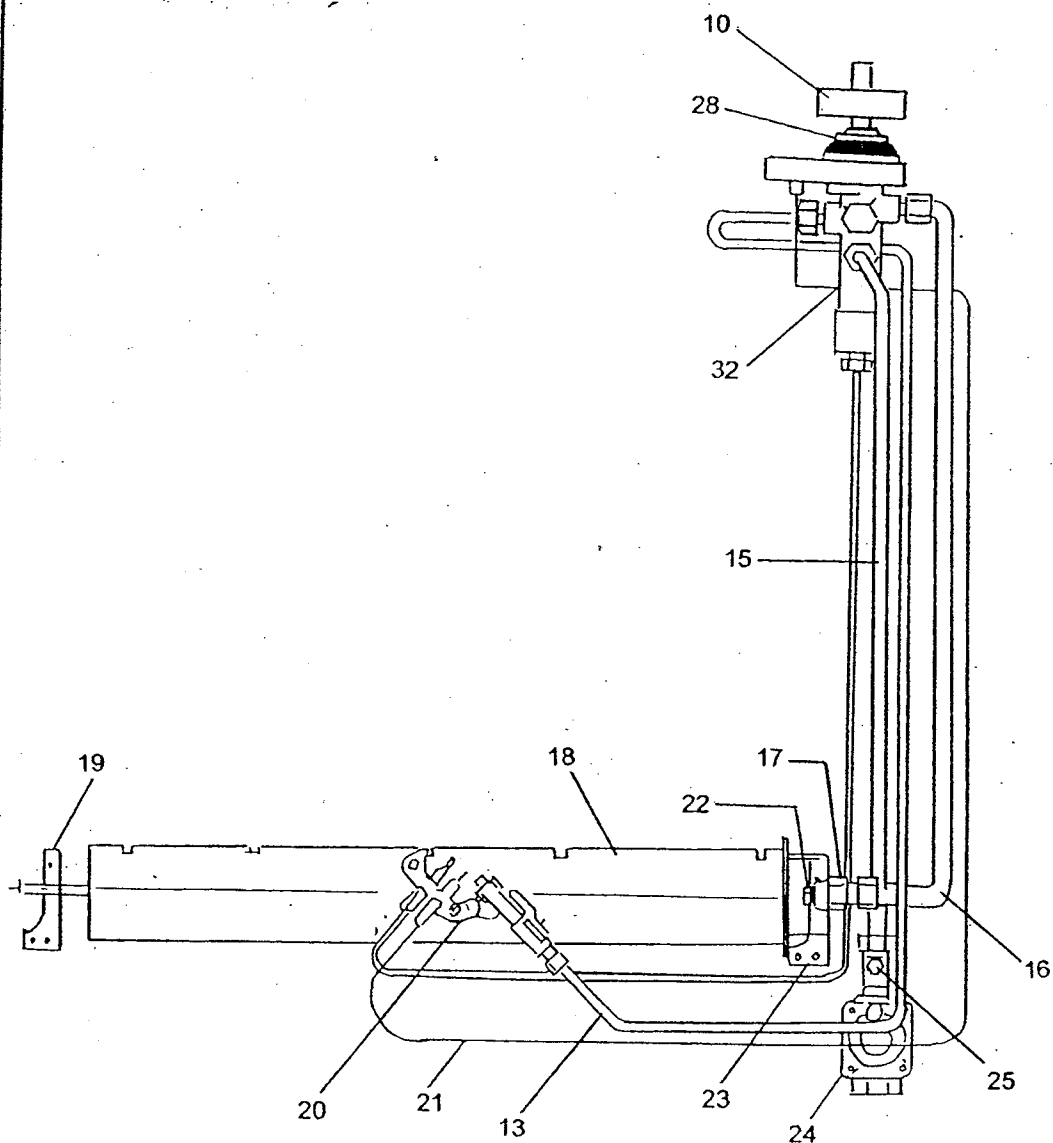
ITEM NO.	PART NUMBER FOR MODEL						DESCRIPTION OF ITEM
	FAS-30BA	FBS-30BA	FAS-20BA	FBS-20BA	FAS-10BA	FBS-10BA	
1	L98409-03	L98409-03	L98409-04	L98409-04	L98409-06	L98409-06	Cabinet Assembly
2	L98931-01	L98931-01	L98931-02	L98931-02	L98931-03	L98931-03	Front Panel Assembly
3	L98010-06	L98010-06	L98010-07	L98010-07	L98010-08	L98010-08	Grill Guard
4	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	Screw (c) 4x10
5	L98410-06	L98410-06	L98410-07	L98410-07	L98410-08	L98410-08	Deflector Assembly
6	L98501-01	L98501-01	L98501-02	L98501-02	L98501-03	L98501-03	Glass Panel
7	L98502-01	L98502-01	L98502-02	L98502-02	L98502-03	L98502-03	Glass Retainer, upper
8	L98502-04	L98502-04	L98502-05	L98502-05	L98502-06	L98502-06	Glass Retainer, lower
9	.	.	.	.	.	.	Steel Wind Shield
10	.	.	.	.	.	.	Control Knob
11	L98066-01	L98066-01	L98066-01	L98066-01	L98066-02	L98066-02	Thermostat Valve Base
12	L98065-02	L98065-08	L98065-04	L98065-10	L98065-01	L98065-01	Thermostat Valve Assembly
13	L98923-01	L98923-05	L98923-01	L98923-05	L98923-02	L98923-02	Pilot Tubing Assembly
14	.	.	.	.	.	.	High Outlet Tube Assembly
15	L98922-01	L98922-05	L98922-01	L98922-05	L98922-03	L98922-03	Main Inlet Tube Assembly
16	L98924-01	L98924-01	L98924-01	L98924-01	L98924-02	L98924-02	Burner Inlet Tube
17	L98507-01	L98507-01	L98507-01	L98507-01	L98507-02	L98507-02	Burner Connector
18	L98506-01	L98506-01	L98506-02	L98506-02	L98506-03	L98506-03	Burner
19	L98504-01	L98504-01	L98504-01	L98504-01	L98504-02	L98504-02	Left Mounting Bracket
20	L98071-03	L98071-04	L98071-03	L98071-04	L98071-03	L98071-04	Pilot and Ignition Unit
21	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	Ignitor Cable
22	L98508-01	L98508-02	L98508-03	L98508-04	L98508-05	L98508-06	Injector
23	L98505-01	L98505-01	L98505-01	L98505-01	L98505-02	L98505-02	Right Mounting Bracket
24	L98913-03	L98913-04	L98913-03	L98913-04	L98913-03	L98913-04	Regulator Assembly
25	L98916-01	L98916-01	L98916-01	L98916-01	L98916-02	L98916-02	Pressure Tap Assembly
26	L98825-01	L98925-01	L98925-01	L98925-01	.	.	(TT) Screw Stem Assembly
27	.	.	.	.	L98084-01	L98084-01	Valve Mounting Screw

ITEM NO	PART NUMBER FOR MODEL										DESCRIPTION OF ITEM
1	FA-20BA	FB-20BA	FA-10BA	FB-10BA	FA-60BA	FB-60BA	FA-30BA	FB-30BA	FQJ30NGA	FQJ30LPA	Cabinet Assembly
2	L98409-08	L98409-08	L98409-05	L98409-05	L98409-05	L98409-05	L98409-07	L98409-07	L98409-07	L98409-07	Front Panel Assembly
3	L98931-02	L98931-02	L98931-03	L98931-03	L98931-03	L98931-03	L98931-01	L98931-01	L98931-01	L98931-01	Grill Guard
4	L98010-07	L98010-07	L98010-08	L98010-08	L98010-08	L98010-08	L98010-06	L98010-06	L98010-06	L98010-06	Screw, Max10
5	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	L98075-01	Deflector Unit
6	L98410-07	L98410-07	L98410-08	L98410-08	L98410-08	L98410-08	L98410-06	L98410-06	L98410-06	L98410-06	Glass Panel
7	L98501-02	L98501-02	L98501-03	L98501-03	L98501-03	L98501-03	L98501-01	L98501-01			Glass Retainer, upper
8	L98502-02	L98502-02	L98502-03	L98502-03	L98502-03	L98502-03	L98502-01	L98502-01			Glass Retainer, lower
9	L98502-05	L98502-05	L98502-06	L98502-06	L98502-06	L98502-06	L98502-04	L98502-04			Steel Wind Shield
10	L98061-03	L98061-03	L98061-02	L98061-02	L98061-04	L98061-04	L98061-03	L98061-03	L98061-03	L98061-03	Control Knob
11											Thermostat Valve Base
12											Thermostat Valve Assembly
13	L98923-03	L98923-03	L98923-04	L98923-04	L98923-04	L98923-04	L98923-03	L98923-03	L98923-03	L98923-03	Pilot Tubing Assembly
14	L98928-01	L98928-01					L98928-01	L98928-01	L98928-01	L98928-01	High Outlet Tube Assembly
15	L98922-04	L98922-04	L98922-02	L98922-02	L98922-02	L98922-02	L98922-04	L98922-04	L98922-04	L98922-04	Main Inlet Tube Assembly
16	L98924-03	L98924-03	L98924-04	L98924-04	L98924-05	L98924-05	L98924-03	L98924-03	L98924-03	L98924-03	Burner Outlet Tube Assy.
17	L98507-01	L98507-01	L98507-02	L98507-02	L98507-02	L98507-02	L98507-01	L98507-01	L98507-01	L98507-01	Burner Connector
18	L98506-02	L98506-02	L98506-03	L98506-03	L98506-03	L98506-03	L98506-01	L98506-01	L98506-01	L98506-01	Burner
19	L98504-01	L98504-01	L98504-02	L98504-02	L98504-02	L98504-02	L98504-01	L98504-01	L98504-01	L98504-01	Left Mounting Bracket
20	L98071-03	L98071-04	L98071-03	L98071-04	L98071-03	L98071-04	L98071-03	L98071-04	L98071-03	L98071-04	Pilot and Ignition Unit
21	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	L98411-01	Ignitor Cable
22	L98508-09	L98508-10	L98508-05	L98508-06	L98508-11	L98508-12	L98508-07	L98508-08	L98508-07	L98508-08	Injector
23	L98505-01	L98505-01	L98505-02	L98505-02	L98505-02	L98505-02	L98505-01	L98505-03	L98505-04	L98505-01	Right Mounting Bracket
24	L98913-03	L98913-04	L98913-03	L98913-04	L98913-03	L98913-04	L98913-03	L98913-04	L98913-03	L98913-04	Regulator Assembly
25	L98916-01	L98916-01	L98916-02	L98916-02	L98916-02	L98916-02	L98916-01	L98916-01	L98916-01	L98916-01	Pressure Tap Assembly
26											(TT) Screw Stem Assembly
27	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	L98084-01	Valve Mounting Screw
28	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	L98054-01	Control Valve Fixed Nut
29	L98929-01	L98929-02	L98929-02				L98929-01	L98929-01	L98929-01	L98929-01	First Outlet Tube Assembly
30	L98930-01	L98930-01	L98930-02	L98930-02			L98930-01	L98930-01	L98930-01	L98930-01	Second Outlet Tube Assembly
31			L98514-01	L98514-01							Levelled "T" Connector
32	L98034-01	L98034-01	L98034-01	L98034-01			L98034-01	L98034-01	L98034-01	L98034-01	Control Valve
33	L98055-01	L98055-01					L98055-01	L98055-01	L98055-01	L98055-01	4-Way Connector

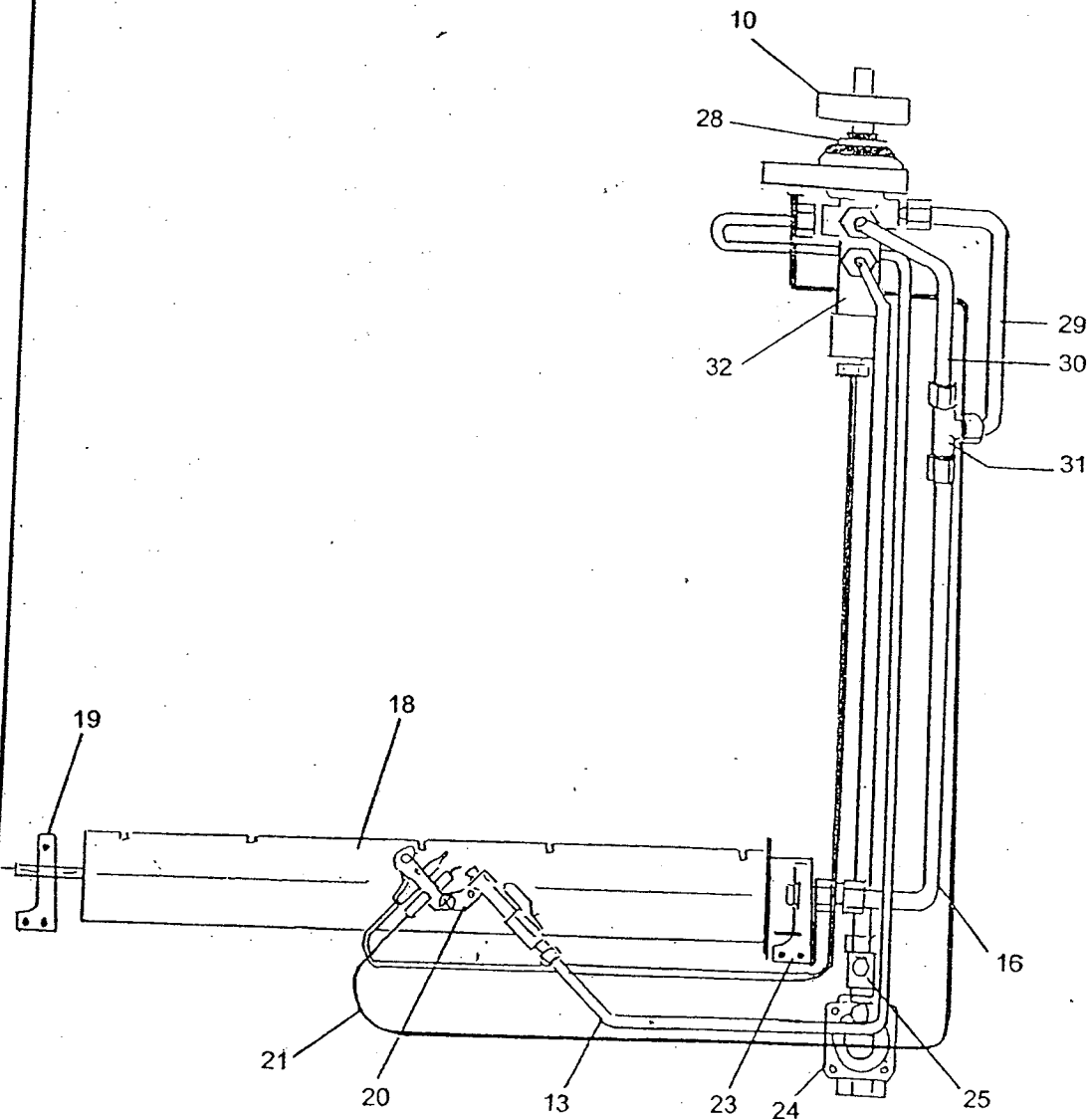
CASING: ALL MODELS



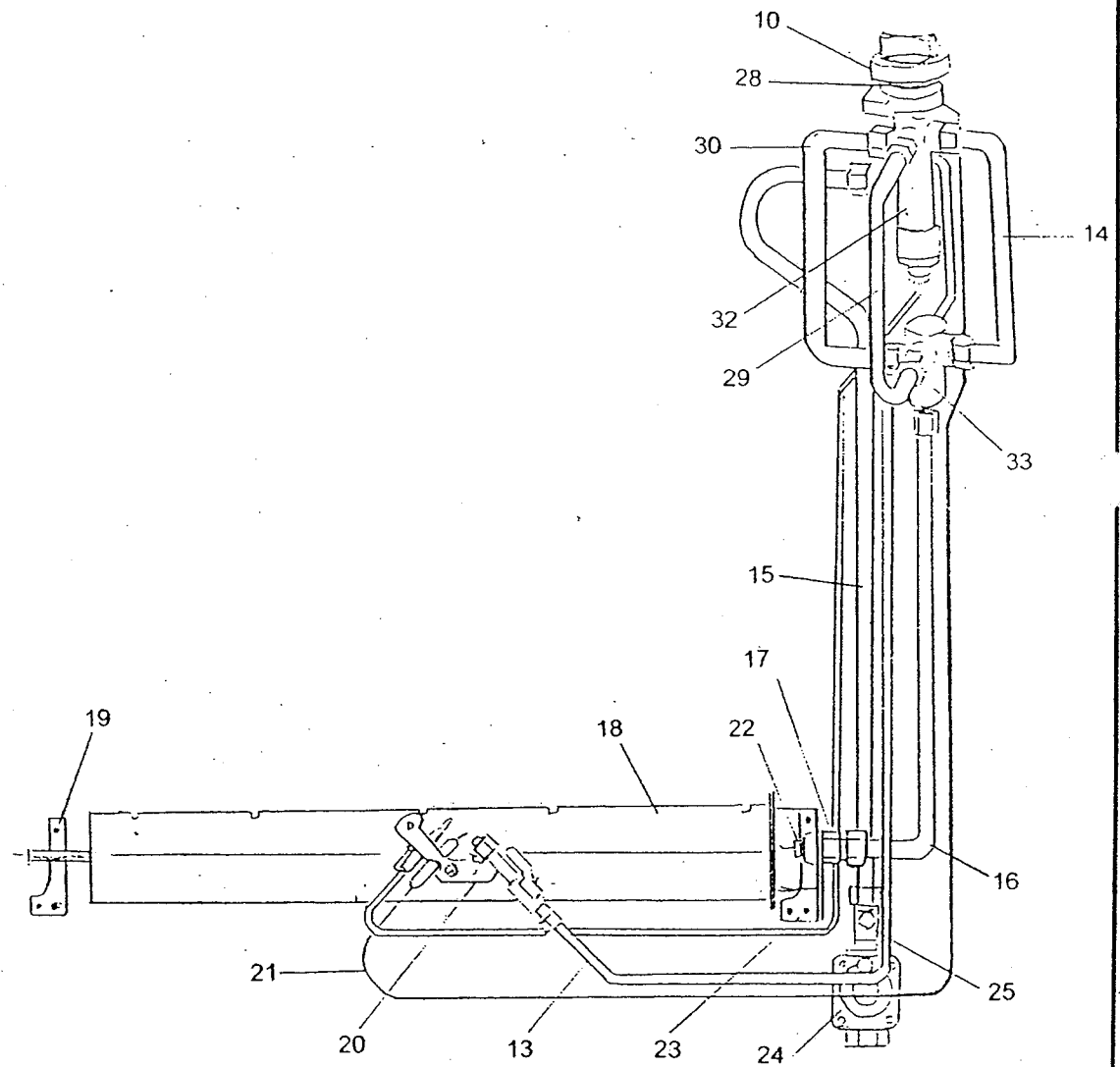
**MODEL NUMBERS:
FA-60BA FB-60BA**



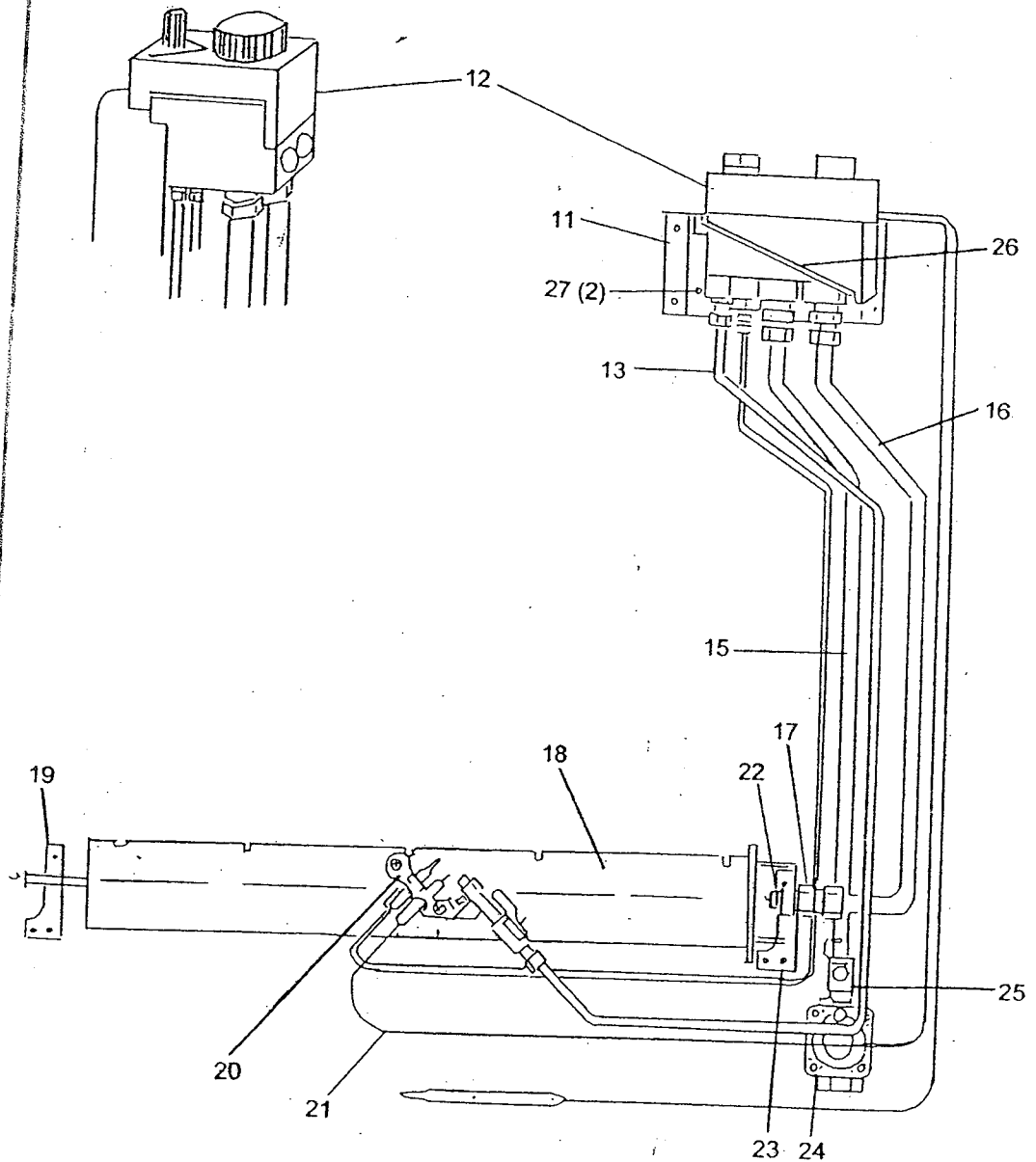
**MODEL NUMBERS:
FA-10BA FB-10BA**



MODEL NUMBERS:
FA-20BA FA-30BA FGH-30NGA
FB-20BA FB-30BA FGH-30LPA



MODEL NUMBERS:
FAS-10BA FAS-20BA FAS-30BA
FBS-10BA FBS-20BA FBS-30BA



WARRANTY INFORMATION

KEEP THIS WARRANTY

Model _____

Serial No. _____

Date Purchased _____

Always specify model and serial numbers when communicating with the factory.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

LIMITED WARRANTY

BLUE FLAME VENT-FREE NATURAL GAS HEATERS

DESA International warrants this product to be free from defects in materials and components for two (2) years from the date of first purchase, provided that the product has been properly installed, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty, the Bill of Sale or canceled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers the cost of part(s) required to restore this heater to proper operating condition and an allowance for labor when provided by a DESA Authorized Service Center. Warranty part(s) MUST be obtained through authorized dealers of this product and/or DESA International who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The heater MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

This warranty does not apply to parts that are not in original condition because of normal wear and tear, or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective heater will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT; THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL OTHER IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO TWO (2) YEARS FROM THE DATE OF FIRST PURCHASE; AND DESA INTERNATIONAL'S LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND DESA INTERNATIONAL SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation on implied warranties, or exclusion or limitation on damages may not apply to you.

This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

For information about this warranty write:

DESA

INTERNATIONAL

2701 Industrial Drive

P.O. Box 90004

Bowling Green, KY 42102-9004

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