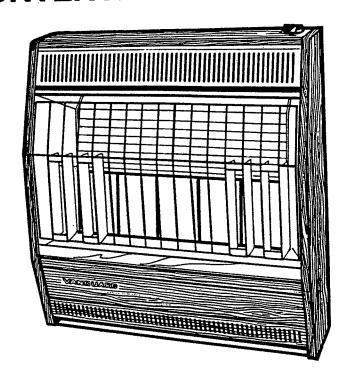
VANGUARD UNVENTED GAS HEATER



OWNER'S AND INSTALLATION MANUAL MODELS KV1500A & KV2500A

FOR YOUR SAFETY

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

FOR YOUR SAFETY

If you smell gas:

- 1. Open windows.
- 2. Don't touch electrical switches.
- 3. Extinguish any open flame.
- 4. Immediately call your gas supplier.

CAUTION:

Read all instructions carefully before starting the installation.

DO NOT use this heater in Sleeping quarters, Trailers or Recreational vehicles.



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SAFETY REQUIREMENTS

Awarning: Improper use of this heater can result in serious bodily injury or property damage.



- 1. Any change to this heater or its controls can be dangerous.
- 2. Read these rules and the instructions carefully.
- 3. 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 service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is important that control compartments, burners and circulating air passageways of the room heater be kept clean.
- 4. CAUTION: Use only the type of Gas specified.
- 5. DO NOT place the LP supply tank inside any structure. It MUST be located OUTDOORS.
- 6. If you smell gas:
 - a. Open windows.
 - b. DO NOT touch electrical switches.
 - c. Extinguish any open flame.
 - d. Immediately call your gas supplier.
- 7. DO NOT install this heater in SLEEPING QUARTERS, trailers or recreational vehicles.
- 8. DO NOT operate heater in areas where flammable liquids, vapors or high dust content exist.
- 9. DO NOT store or use gasoline or other flammable vapors and liquids in the vicinity of this heater.
- 10. Keep combustible materials, such as furniture, draperies and clothing at least three (3) feet away from the front, top and SIDES of the heater.
- 11. Open a door to an adjacent room to assure adequate ventilation. Never operate heater in a small closed room.
- 12. DO NOT locate heater in high traffic areas or in windy or drafty locations.
- 13. Front surface and grill are hot during operation and may cause serious burns if touched. Young children should be carefully supervised when they are in the same room as the heater.
- 14. ANY SAFETY SCREEN or guard removed for maintaining the room heater must be replaced prior to operating the heater.
- 15. Always operate the heater at the low, medium or high locked position. Never operate the heater at a setting between the locked positions, as this may result in improper combustion and increased emission of carbon monoxide.
- 16. Children and adults should be alert to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.

QUALIFIED INSTALLING AGENCY

The installation must conform to local codes. In the absence of local codes, the installation must conform with National Fuel Gas Code ANSI Z223.1-1984 also known as NFPA 54*.

*Available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018 or from the National Fire Protection Association Inc., Batterymarch Park, Quincy, MA 02269.

INTRODUCTION

Please read these instructions and check all local codes before you have your heater installed. This will help you obtain the full value from your heater. It will also help you avoid needless service costs that result from causes we cannot control or cover in our warranty.

This appliance is design certified by the American Gas Association Laboratories as an unvented gas heater.

This heater has been designed for wall mounting. If you want to locate your heater on a floor, away from a wall, an optional floor mounting kit is available. See below.

Model KV1500A uses kit GA1000A Model KV2500A uses kit GA1010A

Instructions for the floor mounting kit are included with the kit. (if you intend to locate on carpeting, tiles or other combustible flooring except wood, a metal or wood panel [not included in the kit] will also be required.)

An optional fan kit GA2100 is available.

SPECIFICATIONS

MODEL NO.	KV1500A	KV2500A	MODEL NO.	KV1500A	KV2500A
BTU setting Fuel Ignition No. of Radiants Pressure Regulator Setting Orifice Drill Size	5-10-15,000 LP Gas Piezo 3 9.5" .70	5-15-25,000 LP Gas Piezo 5 9.5" .70	Dimensions, Inches (H×W×D) Heater Carton Weight, Lbs. Heater Shipping	25×16½×7¼ 27½×19¼×9½ 20 23	25×24×7¼ 27½×27×9½ 28 31
Inlet Gas Pressure (Inches of Water)* Maximum Minimum	14" 11"	14" 11"	*CAUTION: This heater requires an external regulator to red the L.P. tank pressure to a maximum of 14" w.c. Never cont this product directly to the supply tank.		

INSTALLATION

I. GENERAL

The installation requirements vary with the locality. The installation must conform with local codes. In the absence of local codes, the installation must conform with the National Fuel Gas Code ANSI Z223.1.1984, also known as NFPA 54. Only qualified (licensed or trained) personnel should install the product. This heater contains an Oxygen Depletion Safety System. If the normal oxygen content is reduced to 18%, the pilot and main burner will shut off.

II. LOCATION

The following safety precautions should be kept in mind when determining the location of the heater. (Residential Application.)

- 1. DO NOT install this heater in Sleeping quarters, Trailers or Recreational vehicles.
- 2. The heater should be located to give ready accessibility for operating the controls and for servicing.
- 3. This heater has been designed for wall mounting. The clearances from the heater to combustible surfaces MUST NOT be less than shown in Figure 1. These are absolute minimum clearances and greater clearances should be allowed wherever possible. The minimum floor clearance must be maintained above the top surface of carpeting, tile or other combustible covering. A minimum of 6 inches is required for both sides of the heater.
- 4. DO NOT install in areas where curtains, drapes, clothing or other flammable materials are within 12 inches of the sides or 36 inches of the top and front of the heater.

If the heater is installed in a residential garage, the following precautions should be taken.

- 1. The heater pilot and burners must be at least 18 inches above the floor.
- 2. The heater must be located or reasonably protected, so as not to be subjected to damage by a moving vehicle.

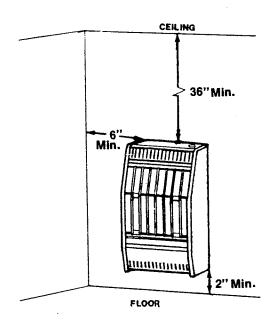


Figure 1

III. INSTALLING HEATER TO WALL

STEP 1. Remove the upper mounting plate on back of heater by moving the two screws which secure it. (Figure 2A)

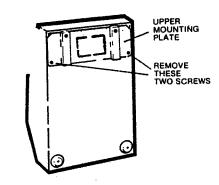
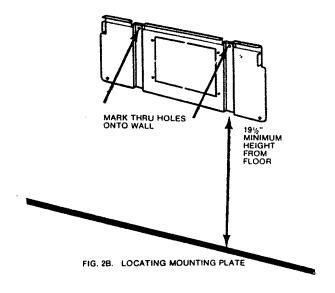
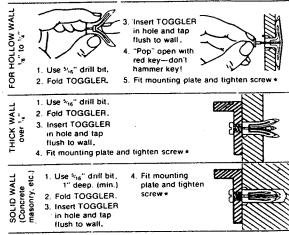


FIG. 2A. REMOVING MOUNTING PLATE

STEP 2. Place the upper mounting plate against the wall surface with the raised ribs touching the wall and the bent edge at top. Check that bottom of mounting plate is at least 19½ inches from floor or carpet and that the plate is level. Mark the holes for drilling. (Figure 2B)



STEP 3. Remove the upper mounting plate. Drill at the marked locations, install supplied anchors and secure upper mounting plate to wall with supplied screws as described in Figure 3.



 Tighten so mounting plate is flush with the Toggler and the Toggler flush with the wall plus one half turn more. Do not overtighten.

U.S. Patent No. 3,651,734 and foreign counterparts thereof.

TOGGLER® is a registered trademark of MECHANICAL PLASTICS CORP. Pleasantville. New York 10570, U.S.A.

FIG. 3. INSTALLING MOUNTING PLATE

STEP 4. Remove the lower front panel of heater by removing the two screws near the bottom corners and pulling the bottom of panel forward. (Figure 4)

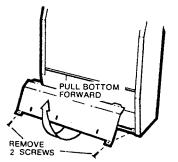


FIG. 4. REMOVING LOWER FRONT PANEL

STEP 5. Hang the heater on the upper mounting plate. Make sure the back lip on the heater top is properly located over the top edge of the mounting plate. (Figure 5)

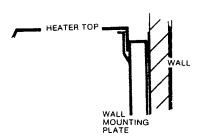


FIG. 5. WALL HANGING

STEP 6. Mark the lower holes for drilling as shown in Figure 6. Remove heater and drill holes and secure anchors. Re-hang the heater and secure by fixing screws through the recessed holes located at the bottom of heater.

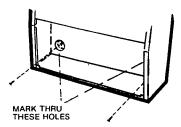


FIG. 6. LOWER FIXINGS

STEP 7. Replace the lower front panel after internal gas connections have been made and checked for gas leaks.

VI. GAS CONNECTION (Figure 7)

- CAUTION: This heater requires an external regulator to reduce the L.P. tank pressure to a maximum of 14" w.c. Never connect this product directly to the supply tank.
- We recommend using only new black iron or steel pipe. Copper tubing may be acceptable. CHECK LOCAL CODES.
- The gas supply line shall be sized and installed to provide a sufficient supply of gas to meet the maximum demand of the heater without undue loss of pressure.
- 4. The sealant used on the threaded joints of the gas pipe must be a type to resist the action of L.P. gas. (This sealant should be applied lightly to male threads to ensure excess sealant does not enter lines.)
- The supply system must include manual shutoff valve and union in the line, so the heater can be disconnected for servicing. Unions in gas lines must be of the ground joint type.
- Include a drip leg (trap) and a plugged 1/8" N.P.T. tapping in the line. The tapping should be accessible for test gauge connections upstream of the gas supply connection to the heater.

V. CHECKS AFTER GAS CONNECTION

AWARNING: All gas piping and connections must be tested for leaks after installation or servicing. All leaks must be corrected immediately.

- 1. Make sure the control of the heater is in the "OFF" position.
- Open the manual shutoff valve. Test for leaks by applying a liquid detergent to all joints. CAUTION: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS.
- 3. Correct any leak detected at once. (Bubbles forming indicate a gas leak.)

VI. PRESSURE TESTING SUPPLY LINE

- The heater and its individual manual shutoff valve must be disconnected from the gas supply piping system which should be capped during any pressure testing of that system at pressures in excess of 1/2 p.s.i.g.
- 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 pressures equal to or less than 1/2 p.s.i.g.

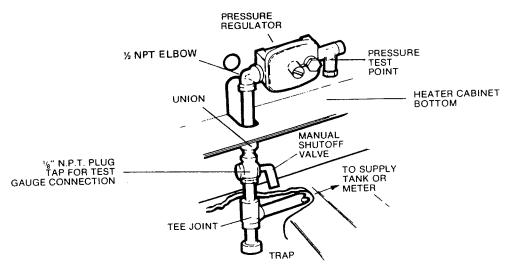


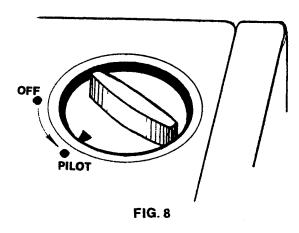
FIG. 7. GAS CONNECTION

OPERATING PROCEDURE

TO TURN ON

- 1. Check that gas supply to the heater is on.
- 2. Turn the control knob counterclockwise to PILOT/IGN and depress knob for five (5) seconds. (Figure 8)

NOTE: The first time that the heater is operated after connecting the gas supply, the control knob should be depressed for about thirty (30) seconds. This will allow air to bleed from the gas system.



Release control knob pressure and turn clockwise to OFF. (Figure 9)

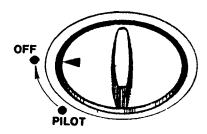


FIG.9

4. 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 (10) seconds before releasing. (Figure 10) If Pilot does not light, repeat Steps 2, 3 and 4 or use a match.

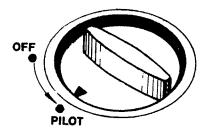
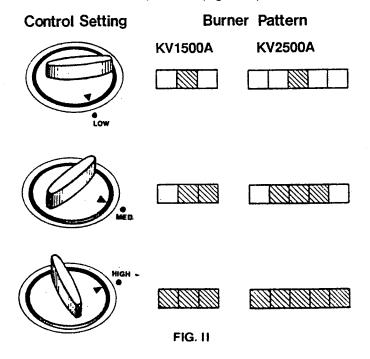


FIG. 10

 To select the heating level desired, partially press down the control knob and rotate counterclockwise. Release the downward pressure on the knob while continuing to turn until the knob locks at the desired setting position. Do Not operate between the locked positions. (Figure 11)



TO TURN OFF

Partially depress and turn the control knob fully clockwise to OFF. (Figure 12)

CAUTION: Wait five (5) minutes before relighting heater.

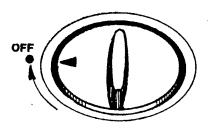


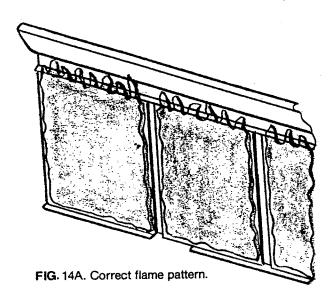
FIG. 12

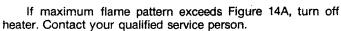
BURNER INSPECTION

A periodic visual check of the pilot flame and burner pattern should be made.



FIG. 13. Correct pilot flame pattern.

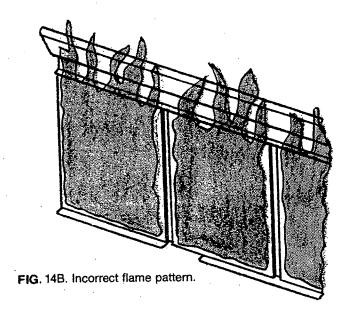




If the burner radiant(s) do not glow evenly over their entire surface when lit, see Troubleshooting.

CLEANING

All cleaning should be done with the heater cold and the gas shut off. Dusting or wiping with a soft cloth and mild soap is all that should be required to keep the casing clean. The remaining parts of the heater should only need occasional dusting with a dry cloth.



TROUBLESHOOTING

PROBLEM	REASON	SOLUTION
	OWNER HINTS	
Pilot or heater will not ignite.	 Gas supply valve is closed. Improper lighting procedure. Damaged ignition device. Low pressure in gas line. 	 Open gas supply valve. See lighting procedures. Contact your qualified service person. Contact your qualified service person.
Burner radiant(s) do not glow.	 Damaged radiant(s). Low pressure in gas line. 	 Contact your qualified service person. Contact your qualified service person.
Burner radiant(s) do not glow evenly.	 Low pressure in gas line. Obstruction in radiant or radiant supply line. 	Contact your qualified service person.
Whistling noise during ignition or operation.	Incorrect burning.	 Turn off heater immediately. Relight. If whistling noise continues, contact your qualified service person.
Smell of gas.	1. Gas leak.	1a. Open windows.b. Don't touch electrical switches.c. Extinguish any open flame.d. Immediately call your gas supplier.
Heater automatically extinguished during use.	 Lack of ventilation. Low pressure in gas line. Damaged heater. 	 Open door and/or window. Contact your qualified service person. Contact your qualified service person.
	SERVICE HINT	S
Heater will not ignite.	 Low gas pressure. Air in gas line. Obstruction between electrode and pilot. Broken electrode wire. Defective electrode Defective Piezo device on gas valve 	 Check pressure. Bleed system. Clean or clear obstructions. Replace* Replace* Replace* Replace*
Pilot flame goes out when knob is released.	Loose thermocouple connection. Defective thermocouple.	1. Tighten. 2. Replace*
Pilot is on—burner won't light.	Gas valve passage blocked or defective.	1. Replace*
Burner is noisy.	 Gas input amount is incorrect. Gas regulator pressure is incorrect. Burner unit damaged. 	 Check orifice size. Check pressure. Replace*
Radiants do not glow bright.	 Low gas pressure. Orifices and/or radiants blocked or damaged. 	Check pressure. Clean or replace*.

*NOTE: If for any reason the heater needs replacement parts, the following procedure should be followed:

1. The pilot orifice requires no adjustments and must remain with the bracket assembly.

2. The radiants are not field serviceable. The entire burner unit must be replaced even if only one radiant is defective.

3. The gas regulator is factory preset and can not be adjusted.

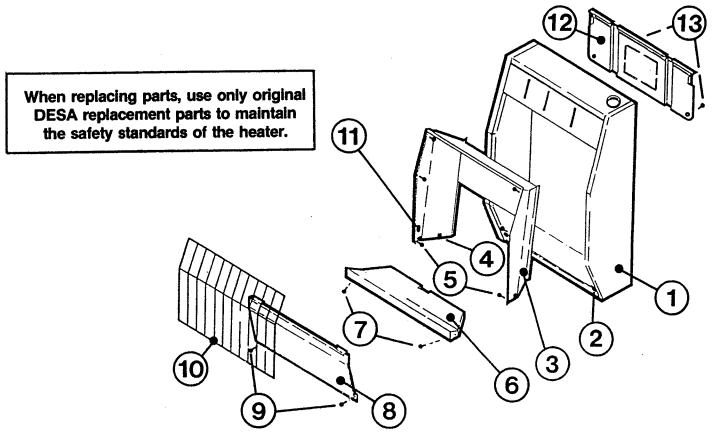
WARNING: Never use wire, needle or similar object to clean the pilot. This can damage the pilot unit.

REPLACEMENT PARTS

NOTE: In order for your customer to receive credit for parts replaced under warranty, only original replacement parts must be used.

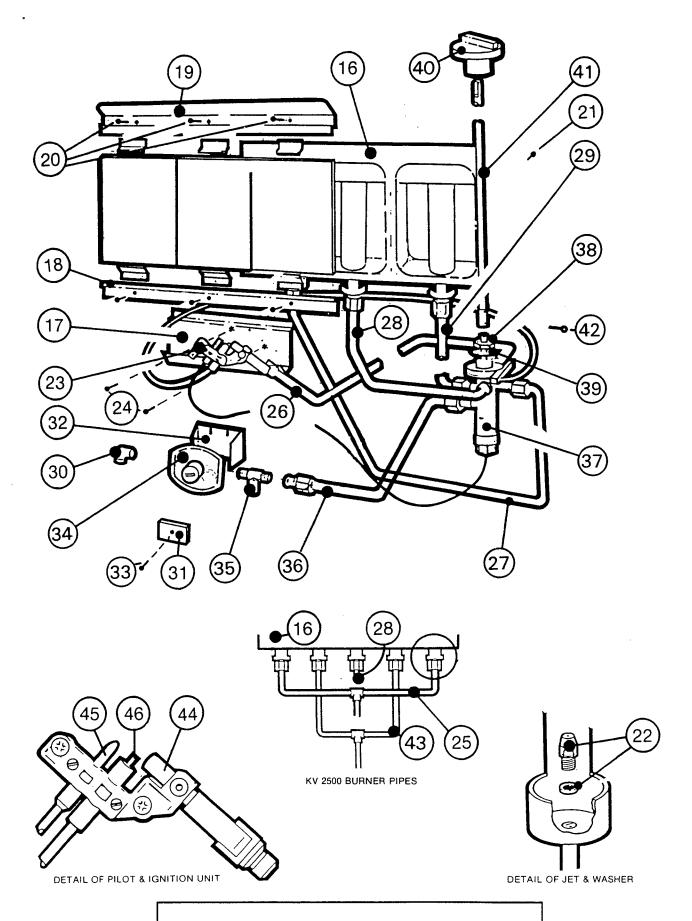
- A. IN WARRANTY Contact authorized dealers of this product. If they are unable to supply original replacement part(s), call DESA International at 1-800-323-5190. Be prepared to indicate name, address, model number, and how heater was
- malfunctioning, type of gas used and purchase date. In most cases, the defective part will be requested to be returned to the factory.
- B. NON-WARRANTY Contact authorized dealers of this product. If they are unable to supply original replacement part(s), call DESA International at 1-502-781-9600. Be prepared to indicate model number and replacement part number.

REPAIR PARTS—CABINET UNIT



REPAIR PARTS—CABINET UNIT

Part Number for				No. Required for	
Kev No.	KV1500A	KV2500A	Description	KV1500A	KV2500A
1 2 3 4 5 6 6 7 8 9 10 11 12	097818-01 097404-01 097822-01 097402-01 097401-01 340K931 097397-01 097855-01 097399-01 040K680 330K952 097850-01BC	097819-01 097404-01 097823-01 097402-01 097401-01 340K930 097397-01 097856-01 097399-01 040K681 330K952 097850-02BC 097399-01	Cabinet (Includes Key 2) Fastener ("U" Nut) Reflector Unit (Includes Key 4) Nut (Push-Type) M5 Bright Screw No. 6 x 1/4" Burner Apron Screw No. 10-24 x 3/8" Lower Front Panel Screw No. 8 x 3/8" Safety Guard Unit Clip - Safety Guard Upper Back Plate Screw No. 8 x 3/8"	1 2 1 4 6 1 4 1 2 1 2	1 2 1 4 6 1 4 1 2 1 2 1 2



When replacing parts, use only original Desa International replacement parts to maintain the safety standards of the heater.

REPAIR PARTS—BURNER AND CONTROL UNITS

	PART NUMBER FOR			NO. REQ	UIRED FOR
KEY NO.	KV1500A	KV2500A	DESCRIPTION	KV1500A	KV2500A
15	502599	502969	Burner Unit Assembly (Includes Keys 16-20)	1	1
16	502609	502979	Burner Case, Radiant Plaque and		:
,,			Jet Unit (Includes Key 22)	1	1
17	502049	502049	Mounting Bracket for Pilot Unit	1	1
18	502619	502989	Lower Burner Trim	1	1
19	502629	502999	Upper Burner Deflector	1	1
20	547299	547299	Screw M3 × 6mm	6	10
21	097396-01	097396-01	Screw M5 × 10mm Black	3	3
22	503059	503059	Radiant Jet and Washer	3	5
23	502099	502099	Pilot and Ignition Unit (Includes Keys 44-46)	1	1
24	536119	536119	Screw No. 8 × ½"	. 2	2
25	-	50301 9	Pipe Assembly - Branched - Outer Radiants		
			to Valve		1 1
26	502669	503009	Pipe Assembly - Pilot to Valve	1	1
27	502679		Pipe Assembly - Left Side Radiant to Valve	1	1 -
28	502689	503039	Pipe Assembly - Center Radiant to Valve	1	1
29	502699	_	Pipe Assembly - Right Side Radiant to Valve	1	_
30	420K328	420K328	Gas Inlet Connection Elbow	1	1
31	320A187	320A187	Regulator Fixing Plate	1	1
32	320A184	320A184	Regulator Mounting Bracket	1	1
33	097398-01	097398-01	Screw No. 8 × ½" Type B	` 1	1
34	720K661	720K661	Pressure Regulator	1	1
35	220K497	220K497	Pressure Tap Fitting	1	1
36	020K451	020K451	Pipe Assembly - Pressure Tap Fitting to Valve	1	1
37	502349	502349	Gas Control Valve	1	1
38	502739	502739	Locknut	1	1
39	502749	502749	Washer	1	1
40	640K185	640K185	Control Knob	1	1
41	020K446	020K446	Control Shaft Unit	1	1
42	100B123	100B123	Split Fixing Pin	1	1
43		503029	Pipe Assembly - Branched — Burners		1
			2 & 4 to Valve	1	1
44	502879	502879	Pilot & Bracket Sub Assembly	1	1
45	502829	502829	Thermocouple	1	1
46	502839	502839	Ignitor Electrode	1	1
			PARTS NOT ILLUSTRATED		
_	097435-01	097435-01	Installation/Owner's Manual	1	1
_	502789	502789	Kit—Wall Fixing Screws and Anchors	1	1
_	502789	502789	Kit-Wall Fixing Screws and Anchors	1	1

KEEP THIS WARRANTY

Model	
Serial No	
Date Purchased	Fill in above information for your own record

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 VANGUARD 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 cancelled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers only the cost of part(s) required to restore this heater to proper operating condition. 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. This 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 IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO ONE (1) YEAR 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
Bowling Green, KY 42101