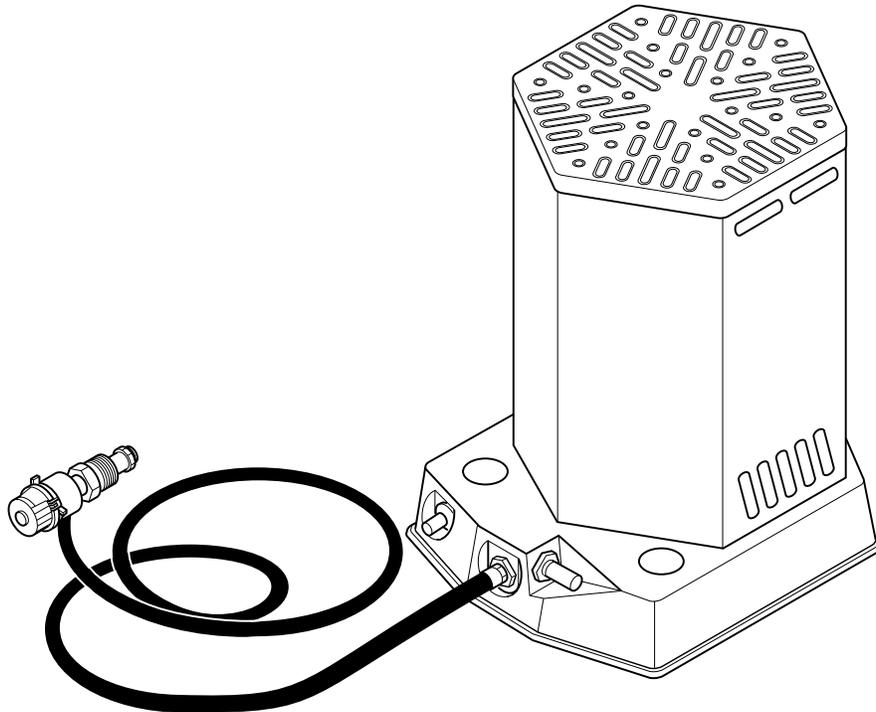


PROPANE CONSTRUCTION HEATER

OWNER'S MANUAL



Models: TC25 and RCP25

IMPORTANT: Read and understand this manual before assembling, starting, or servicing heater. Improper use of heater can cause serious injury. Keep this manual for future reference.

⚠ GENERAL HAZARD WARNING:

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, AND/OR CARBON MONOXIDE POISONING.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

TC25 and RCP25 PROPANE CONSTRUCTION HEATER

SAFETY INFORMATION

WARNINGS

⚠ WARNING: FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠ WARNING: NOT FOR HOME OR RECREATIONAL VEHICLE USE.

We cannot foresee every use which may be made of our heaters. **Check with your local fire safety authority if you have questions about heater use.**

Carbon Monoxide Poisoning: Some people are more affected by carbon monoxide than others. Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Have heater serviced.

Propane Gas: Propane gas is odorless. An odor-making agent is added to propane gas. The odor helps you detect a propane gas leak. However, the odor added to propane gas can fade. Propane 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.

- Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to ANSI/NFPA 58. This instructs on the safe storage and handling of propane/LP gases.
- Use only the hose and regulator provided with the heater.
- Use only propane gas set up for vapor withdrawal.
- For indoor and outdoor use. When used indoors, use only in well-vented areas. Provide at least 120 square inches of fresh, outside air before using heater.
- This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.
- Do not use heater in occupied dwellings, sleeping quarters, campers, tents, or any type of unvented or enclosed area.
- Do not use heater in basement or below ground level. Propane gas is heavier than air. If a leak occurs, propane gas will sink to the lowest possible level.
- Do not use heater as a cooking device. Do not place objects on top of heater.
- Keep appliance area clear and free from combustible materials, gasoline, paint thinner, and other flammable vapors and liquids. Dust is combustible. Do not use heater in areas with high dust content.
- Minimum heater clearances from combustibles: Sides: 3 feet; Top: 6 feet.
- Keep heater at least six feet from propane tank(s).
- Keep propane tank(s) below 100°F while in use.
- Before each use, check heater for leaks. 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 leaks at once.
- Check heater for damage before each use. Do not use a damaged heater.
- Check hose before each use of heater. If highly worn or cut, replace with hose specified by the manufacturer before using heater.
- Do not alter heater. Keep heater in its original state.
- Do not use heater if altered.
- Locate heater on stable and level surface if heater is hot or not operating.
- Never block air inlet (top of base) or air outlet (around top of shell) of heater.
- Keep heater away from strong drafts, wind, water spray, rain, or dripping water.
- Never operate heater while unattended. Never run heater while asleep.
- Keep children and animals away from heater.
- Before connecting heater to propane tank, make sure the heater regulator knob is in the "OFF" position. Always connect and operate heater in areas free of open flames.
- Never move, handle, or service a hot or operating heater. Severe burns may result. You must wait 15 minutes after turning heater off.
- To prevent injury, wear gloves when handling heater.
- Always remove gas hose from propane tank, after each use. Always store propane tank outdoors. Never store propane tank in an enclosed area. Never store tank near high heat, open flame, or where temperatures exceed 120°F.
- Turn off propane supply to heater when not in use.
- Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries.
- Keep all connections and fittings clean. Make sure propane tank valve outlet is clean. Check the rubber "O" ring on the heater inlet fuel connector for damage before each use. Replace if worn or damaged.

OWNER'S MANUAL

PRODUCT IDENTIFICATION

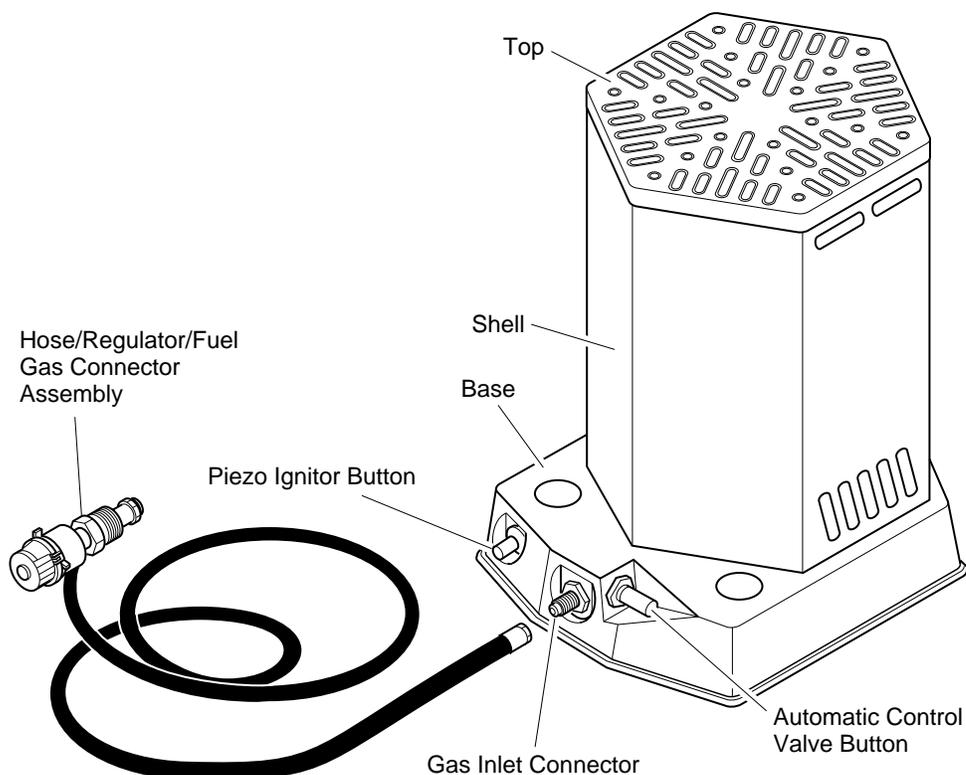


Figure 1 - Product Identification

UNPACKING

1. Remove all packing items applied to heater for shipment. Keep plastic cover caps (attached to inlet connector and hose/regulator assembly) for storage.
2. Remove all items from carton.
3. Check all items for shipping damage. If heater is damaged, promptly inform dealer where you bought heater.

THEORY OF OPERATION

The Fuel System: The hose/regulator assembly attaches to the propane gas supply. This provides fuel to the heater.

The Ignition System: The piezo ignitor lights the burner.

The Automatic Control System: The automatic control valve shuts off the heater if the flame goes out.

NOTICE: Because of the metal lubricant used in this product, you may notice some smoking upon initial start-up and shut down. This condition is normal and should not occur beyond the first several (5-10) minutes of operation. If you have questions, please call 1-800-323-5190.

PROPANE SUPPLY

Propane gas and propane tank(s) are to be furnished by the user.

Use this heater only with a propane vapor withdrawal supply system. See Chapter 5 of the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58*. Your local library or fire department will have this booklet.

The amount of propane gas ready for use from propane tanks varies. Two factors decide this amount:

1. The amount of propane gas in tank(s)
2. The temperature of tank(s)

This heater is designed to operate with a minimum 20-pound tank. You may need two or more tanks or one larger tank in colder weather. Use a 100-pound tank for longer operation or in very cold weather. Less gas is vaporized at lower temperatures. Your local propane gas dealer will help you select the proper supply system.

Temperature(°F) at Tank Location	Number of tanks, (100-pound)
40°	1
32°	1
20°	1
10°	1
0°	1
-10°	2
-20°	2

VENTILATION

WARNING: Provide at least an 120-square-inch opening of fresh, outside air before using heater. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

TC25 and RCP25 PROPANE CONSTRUCTION HEATER

INSTALLATION

⚠ WARNING: Review and understand the warnings in the *Safety Information* section. They are needed to safely operate this heater. Follow all local codes when using this heater.

⚠ WARNING: Test all gas piping and connections for leaks after installation or servicing. 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 leaks at once.

1. Make sure heater regulator knob is in the “OFF” position.
2. Wrench tighten the fuel connector nut into the propane tank valve (see Figure 2). Turn fuel connector nut counterclockwise to tighten. Threads are left-handed.
3. Connect hose to the inlet connector (see Figure 3). Tighten firmly using a wrench.
4. Open propane supply valve on propane tank(s) slowly.
5. Check all connections for leaks.
6. Close propane supply valve.

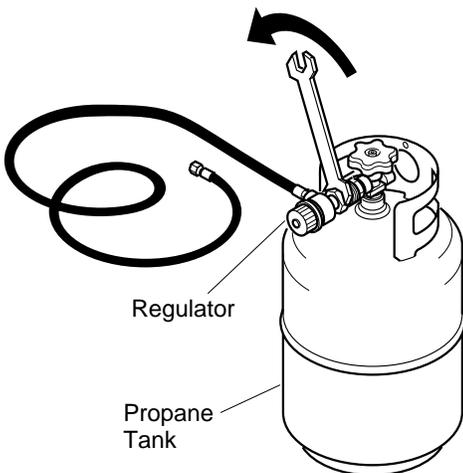


Figure 2 - Connecting Heater to Propane Tank

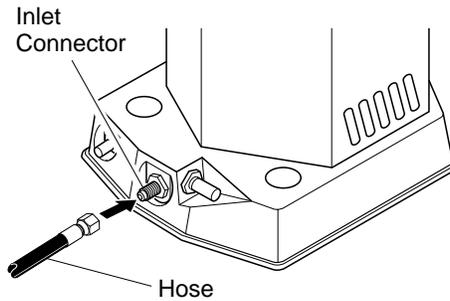


Figure 3 - Hose and Inlet Connector

OPERATION

⚠ WARNING: Review and understand the warnings in the *Safety Information* section. They are needed to safely operate this heater. Follow all local codes when using this heater.

TO START HEATER

1. Follow all installation, ventilation, and safety information.
2. Locate heater on stable and level surface. Make sure strong drafts do not blow on heater.
3. Make sure regulator knob is in “OFF” position.
4. Open propane supply valve on propane tank(s) slowly.
5. Turn regulator knob counterclockwise to “HI”.
6. Push in and hold automatic control valve button (see Figure 4). Push and release piezo ignitor button (see Figure 4). Keep pushing piezo ignitor button until the burner lights. Hold control knob in for a maximum of 10 seconds while trying to light heater. If heater does not light, release control knob and wait 30 seconds. Repeat step 6 to start heater. **Note:** Keep hands and face away from heater outlet (around top of shell) while lighting heater. When burner lights, keep automatic control valve button pushed in. Release button after 30 seconds. This activates the automatic control system.
7. If burner will not light after repeated tries, do not attempt to repair heater. Return heater to nearest authorized service center or call DESA Technical Service at 1-800-323-5190.

8. When burner remains lit, you can turn the heater regulator knob clockwise to the desired heat setting (see Figure 5). If burner goes out, turn off gas. Turn regulator knob fully clockwise to “OFF.” Check fuel supply. If fuel supply is OK, restart heater.

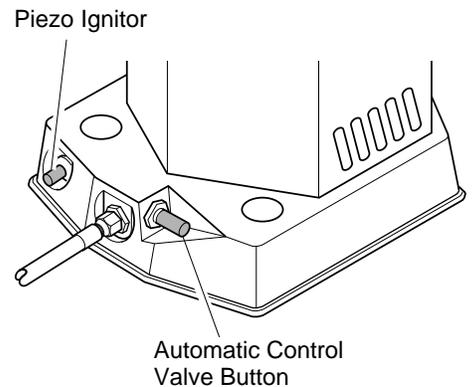


Figure 4 - Automatic Control Valve Button and Piezo Ignitor Button Locations

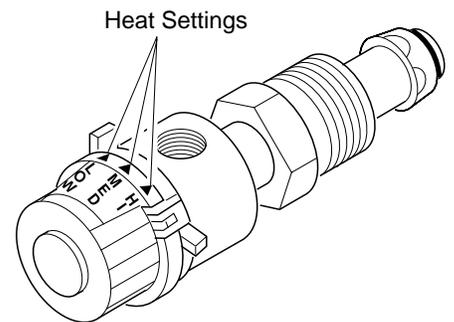


Figure 5 - Heater Regulator

TO STOP HEATER

1. Tightly close propane tank valve by turning clockwise.
2. Turn regulator knob to the “OFF” position. Wait 15 minutes for the heater to cool before handling heater.
3. Always remove the gas supply hose from the heater and the propane tank after each use.

TO RESTART HEATER

1. Wait five minutes after stopping heater.
2. Restart heater by following steps under *To Start Heater*.

OWNER'S MANUAL

STORAGE

⚠ CAUTION: Disconnect heater from propane supply tank(s).

1. Do not store heater while attached to propane tank. Remove the gas supply hose from the propane tank by turning the fuel gas connector nut clockwise.
2. Store propane tank(s) in safe manner. Refer to Chapter 5 of *Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58*. Follow all local codes. Always store propane tanks outdoors. Never store propane tank in an enclosed area.
3. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.
4. Store in a dry, clean, and safe place.

TROUBLESHOOTING

You may have further questions about this heater. If so, contact DESA International's Technical Service Department at 1-800-323-5190 or visit our web site at www.desatech.com.

SYMPTOM

MAINTENANCE

⚠ WARNING: Never attempt to service heater while it is connected to propane supply, operating, or hot. Severe burns can occur.

1. Keep heater clean.
2. Inspect heater before each use. Check connections for leaks. Apply mixture of liquid soap and water to connections. Bubbles forming show a leak that must be corrected. Correct all leaks at once.
3. Inspect hose/regulator assembly before each use. If hose is highly worn or cut, replace it immediately.
4. Have heater inspected yearly by a qualified service person.

⚠ WARNING: Never attempt to service heater while it is connected to propane supply, operating, or hot. Severe burns can occur.

POSSIBLE CAUSE

REMEDY

Burner fails to light

1. Propane supply valve closed on propane tank(s)
2. Blockage in burner/valve assembly
3. Piezo ignition system not sparking

1. Open propane supply valve slowly
2. Replace burner/valve assembly
3. Verify ignitor electrode gap is .120". Check wire lead for damage. Replace piezo ignitor and/or ignitor electrode as necessary

Burner lights but goes out when automatic control valve button is released

1. Not enough warm-up time
2. Low gas pressure
3. Thermocouple loose or needs to be replaced
4. Automatic control valve needs to be replaced

1. Relight, hold automatic control valve button in 45 seconds
2. Check propane tank(s) for proper gas supply
3. Tighten connection or replace thermocouple
4. Replace automatic control valve assembly

Maximum burn rate is low

1. Low gas pressure
2. Low fuel supply
3. Plugged gas orifices

1. Check gas supply; check regulator output
2. Consult propane gas supplier
3. Replace burner assembly

www.desatech.com

TC25 and RCP25 PROPANE CONSTRUCTION HEATER

TROUBLESHOOTING SPECIFICATIONS

Continued

CHECKING FOR CORRECT BURNER FLAME

⚠ WARNING: Heater shell, top, and heated air from heater is very hot during operation. Gradually move in closer to heater to observe flame color. Do not touch heater shell or top. Do not get too close to heated air from heater. Severe burns could occur.

Look through the ventilation holes in the top of the heater to see the burner flame. The burner flame should be mostly blue with slight yellow coloring on the ends. If the burner flame is mostly yellow, the primary air openings on the burner tube under the heater base may be blocked (see Figure 6).

1. Stop heater (see *To Stop Heater* on page 4) and let cool.
2. Turn heater over to locate the primary air openings on the burner tube (see Figure 6). Remove any debris blocking the primary air openings.

Rating(Btu/Hr)	15,000 to 25,000
Fuel Propane Vapor Only	
Fuel Consumption	
Gallons/Hour	.17 minimum/.27 maximum
Pounds/Hour	.70 minimum/1.16 maximum
Supply Pressure (To Regulator)	
Maximum	Tank Pressure
Minimum	40 psi
Regulator Outlet Pressure	15 psi
Weight (Pounds)	4.7
Shipping Weight (Pounds)	6.1
Heater Size - L x W x H (Inches)	11 x 13.4 x 12.5
Shipping Size - L x W x H (Inches)	11.9 x 13.8 x 13

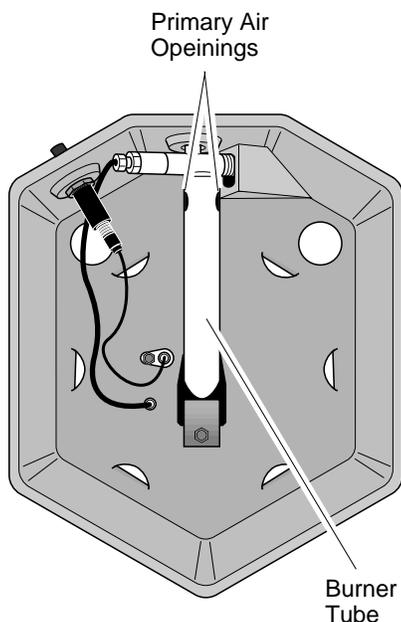


Figure 6 - Bottom View of Heater

REPLACEMENT PARTS

⚠ WARNING: Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries. This will also 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), either contact your nearest Parts Central or call DESA International's Technical Service Department at 1-800-323-5190.

When calling DESA International, have ready

- your name
- how heater was malfunctioning
- your address
- purchase date
- model and serial numbers of your heater

In most cases, we will ask you to return the defective part to the factory.

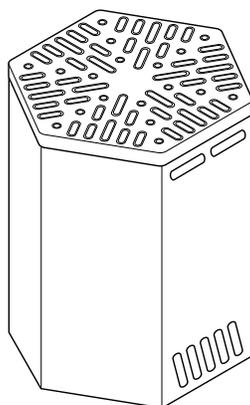
PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s), either contact your nearest Parts Central listed in the Authorized Service Center booklet supplied with heater or call DESA International's Parts Department at 1-800-972-7879 for referral information.

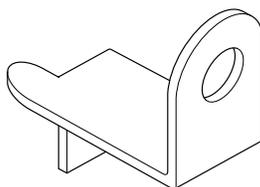
When calling DESA International, have ready

- model number of your heater
- the replacement part number

REPLACEMENT PARTS

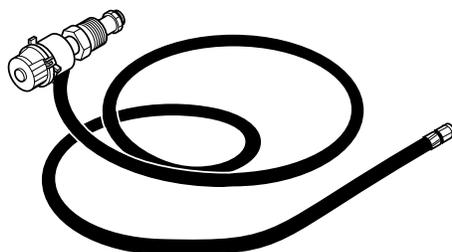


Shell Assembly - 101880-01

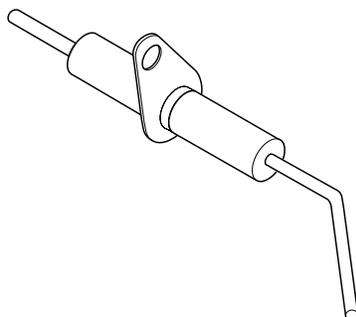


Thermocouple Bracket - 103933-01

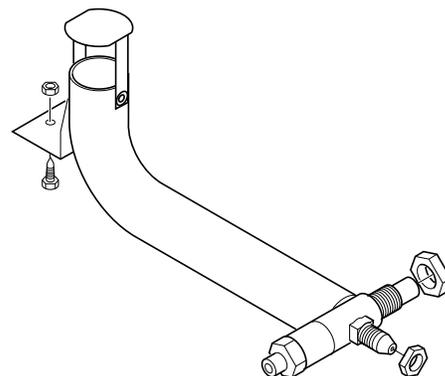
Note: Attach Thermocouple Bracket with #4-40 Bolt/Nut (Standard Hardware Available Locally).



Regulator/Fuel Gas Connector/Hose Assembly - LPA3025

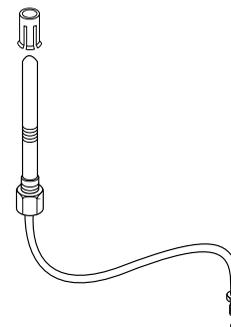


Ignitor - 101878-01

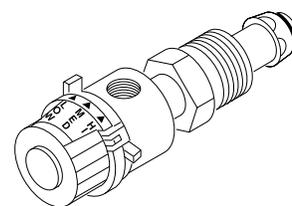


Burner Assembly Kit - 101864-01

Includes automatic control valve, hardware, and instruction sheet

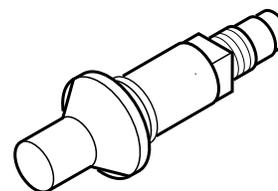


Thermocouple Ignitor Kit - 099236-01



Regulator - LPA2025

Complete with regulator and fuel gas connector



Piezo Ignitor - 102445-01

PARTS AVAILABLE — NOT SHOWN

10' Rubber Hose
with Brass Fitting

LPA1025

WARRANTY AND REPAIR SERVICE

KEEP THIS WARRANTY

LIMITED WARRANTY

DESA International warrants this product and any parts thereof, to be free from defects in materials and workmanship for one (1) year from the date of first purchase when operated and maintained in accordance with instructions. This warranty is extended only to the original retail purchaser, when proof of purchase is provided.

This warranty covers only the cost of parts and labor required to restore the product to proper operating condition. Transportation and incidental costs associated with warranty repairs are not reimbursable under this warranty.

Warranty service is available only through authorized dealers and service centers.

This warranty does not cover defects resulting from misuse, abuse, negligence, accidents, lack of proper maintenance, normal wear, alteration, modification, tampering, contaminated fuels, repair using improper parts, or repair by anyone other than an authorized dealer or service center. Routine maintenance is the responsibility of the owner.

THIS EXPRESS WARRANTY IS GIVEN IN LIEU OF ANY OTHER WARRANTY EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DESA International assumes no responsibility for indirect, incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This warranty does not cover discoloration due to operation of heater. 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.

WARRANTY SERVICE

Should your heater require service, return it to your nearest authorized service center. Proof of purchase must be presented with the heater. The heater will be inspected. A defect may be caused by faulty materials or workmanship. If so, DESA International will repair or replace the heater without charge.

REPAIR SERVICE

Return your heater to your nearest authorized service center. Repairs not covered by the warranty will be billed at standard prices. Each Service Center is independently owned and operated. We reserve the right to amend these specifications at any time without notice.

Model _____

Serial No. _____

Date of Purchase _____

For information, write:
DESA International,
P.O. Box 90004
Bowling Green, Kentucky 42102-9004
ATTN: Customer Service Department
When writing, always include model number
and serial number.

DESA

INTERNATIONAL

2701 Industrial Drive
P.O. Box 90004
Bowling Green, KY 42102-9004
www.desatech.com



101857 01

NOT A UPC

101857-01
Rev. F
05/99