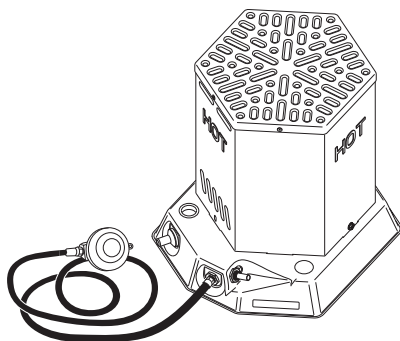




PROPANE CONSTRUCTION CONVECTION HEATER OWNER'S MANUAL



**Variable 15,000/25,000
Btu/Hr Models**

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.


TABLE OF CONTENTS

Safety Information	2	Maintenance	5
Unpacking	3	Inspecting Burner	5
Product Identification	3	Specifications	6
Theory of Operation	3	Technical Service	6
Ventilation	3	Troubleshooting	6
Propane Supply	4	Illustrated Parts Breakdown and Parts List	7
Installation	4	Replacement Parts	7
Operation	4	Warranty and Repair Service	8
Storage	5		

**Save this manual for future reference.
For more information, visit www.desatech.com**

SAFETY INFORMATION

 **WARNING:** This product contains and/or generates chemicals known to the State of California to cause cancer or birth defects, or other reproductive harm.

 **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.

The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair. Properly used, the heater provides safe economical heating. Products of combustion are vented into the area being heated.

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.**

Other standards govern the use of fuel gases and heat producing products for specific uses. Your local authorities can advise you about these.

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.

1. Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58*. This instructs on the safe storage and handling of propane/LP gases.
2. Use only the hose and factory preset regulator provided with the heater.
3. Use only propane gas set up for vapor withdrawal.
4. For indoor and outdoor use. When used indoors, use only in well-vented areas. Provide at least 120 square inches (774.2 cm²) of fresh, outside air before using heater.
5. Do not use heater in occupied dwellings, sleeping quarters, campers, tents, or any type of unvented or enclosed area.
6. 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.
7. Do not use heater as a cooking device. Do not place objects on top of heater.
8. 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.
9. Minimum heater clearances from combustibles: Sides - 3 feet (1 meter), Top - 6 feet (1.8 meters).
10. Keep heater at least 6 feet from propane tank(s).
11. Keep propane tank(s) below 100° F (38 °C).
12. 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.
13. Check heater for damage before each use. Do not use a damaged heater.
14. Check hose before each use of heater. If highly worn or cut, replace with hose specified by the manufacturer before using heater.
15. Do not alter heater. Keep heater in its original state.
16. Do not use heater if altered.

SAFETY INFORMATION

Continued

17. Locate heater on stable and level surface if heater is hot or operating.
18. Never block air inlet (top of base) or air outlet (around top of shell) of heater.
19. Keep heater away from strong drafts, wind, water spray, rain, or dripping water.
20. Never operate heater while sleeping or unattended.
21. Keep children and animals away from heater.
22. Never move, handle, or service a hot or operating heater. Severe burns may result. You must wait 15 minutes after turning heater off.
23. To prevent injury, wear gloves when handling heater.
24. Always remove heater from propane tank after each use. Always store propane tank outdoors in a well ventilated space out of the reach of children. Never store propane tank in a building, garage, or any other enclosed area. Never store propane tank near high heat, open flame, or where temperatures exceed 120 °F (49 °C).
25. Turn off propane supply to heater when not in use.
26. 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.
27. 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.

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.

PRODUCT IDENTIFICATION

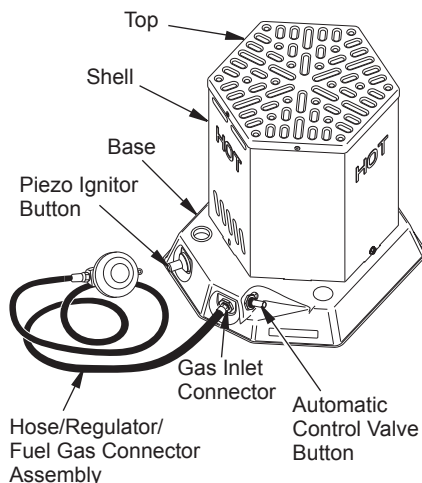


Figure 1 - Product Identification

THEORY OF OPERATION

The Fuel System: The hose/regulator 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: This system causes the heater to shut down if the flame goes out.

VENTILATION

WARNING: Provide at least an 120-square-inch (774.2 cm²) opening of fresh, outside air while running heater. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

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 lb. (9 kg) tank. You may need two or more tanks or one larger tank in colder weather. Use a 100 lb. (45 kg) 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 at Tank Location	Number of tanks, 100 lb (45 kg)
above 0 F (-18 C)	1
below 0 F (-18 C)	2

Smaller tanks can be used for limited run times but it is recommended to use larger tanks for optimum performance.

INSTALLATION

⚠ 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. 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.
2. Connect hose to inlet connector (see Figure 3). Tighten firmly using a wrench.
3. Open propane supply valve on propane tank(s) slowly. **Note:** if not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, you may hear a click inside the regulator assembly, this is the check valve closing. To reset the excess-flow check valve, close propane supply valve and open it again slowly.

4. Check all connections for leaks. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak that must be corrected.
5. Close propane supply valve.

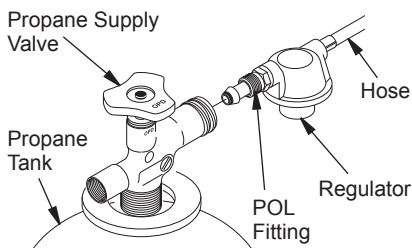


Figure 2 - Connecting Heater to Propane Tank

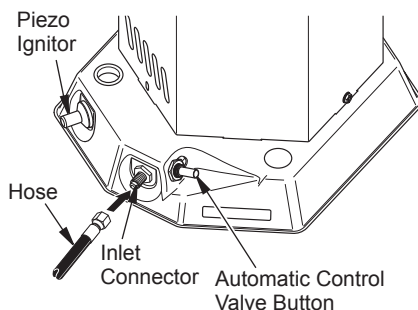


Figure 3 - Hose and Inlet Connector, Automatic Control Valve Button and Piezo Ignitor Button Locations

OPERATION

⚠ WARNING: Review and understand the warnings in the *Safety Information* section, page 2. 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. Open propane supply valve on propane tank(s) slowly.
4. Turn the heater regulator knob clockwise to the "HI" position.

OPERATION

Continued

5. Push in and hold automatic control valve button (see Figure 3). Push and release piezo ignitor button. Keep pushing piezo ignitor button until the burner lights. Hold control knob down for a maximum of 10 seconds while attempting ignition. If heater does not light, release control knob and wait 30 seconds. Repeat step 5 to start heater. **Note:** Keep hands and face away from outlet (around top of shell) of heater while attempting to start heater. After ignition, hold control knob down for approximately 30 seconds. This activates the automatic control system.
6. If burner will not light after repeated tries, do not attempt to repair heater. Return heater to nearest authorized service center or call DESA Heating Products' Technical Service at 1-866-672-6040.
7. When burner remains lit, you can turn the heater regulator knob clockwise to the desired heat setting. If burner goes out, turn off gas. Check fuel supply. If fuel supply is OK, restart heater.

TO STOP HEATER

1. Tightly close propane supply valve on propane tanks by turning clockwise. Wait 15 minutes for the heater to cool before handling heater.
2. 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. Repeat steps under *To Start Heater*, page 4.

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.

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.
4. Have heater inspected yearly by a qualified service person.

INSPECTING BURNER

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.

To check for correct burner flame, 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 4).

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

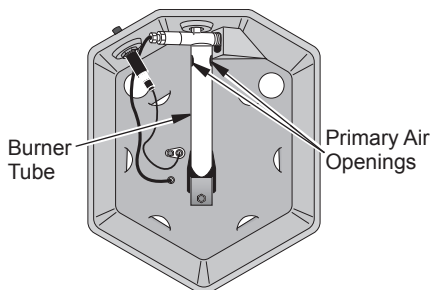


Figure 4 - Bottom View of Heater

SPECIFICATIONS

- Rating: High - 25,000 Btu/Hr (26.375 Kj/Hr)
Low - 15,000 Btu/Hr (15.826 Kj/Hr)
- Fuel - Propane Vapor Only
- Fuel Consumption/Hour:
Gallons (Liters) - Min 0.17 (0.64), Max 0.27 (1.02)
Pounds (kg) - Min 0.70 (0.32), Max 1.16 (0.53)
- Supply Pressure (To Regulator):
Maximum - Tank Pressure
Minimum - 275.8 kPa (40 psi)
- Regulator Outlet Pressure: High - 103.4 kPa
(15 psi), Low - 34.4 kPa (5 psi)

TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA Heating Products' Technical Service Department at 1-866-672-6040. When calling please have your model and serial numbers of your heater ready.

You can also visit DESA Heating Products' technical services web site at **www.desatech.com**.

TROUBLESHOOTING

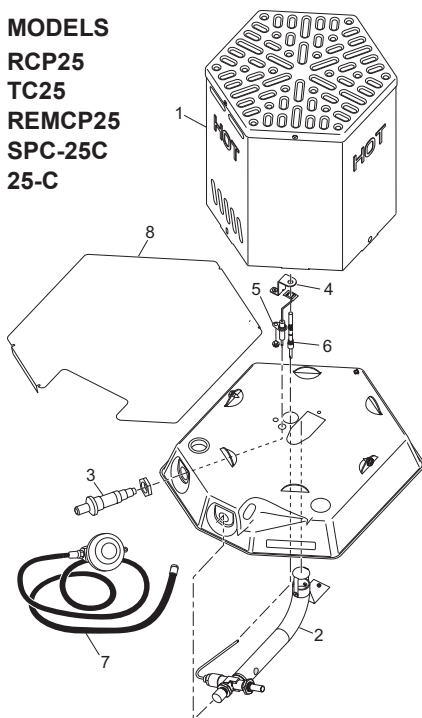


WARNING: Never attempt to service heater while it is connected to propane supply, operating, or hot. Severe burns can occur.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Burner fails to light	1. Propane supply valve closed on propane tank(s)	1. Open propane supply valve slowly
	2. Blockage in burner/valve assembly	2. Replace burner/valve assembly
	3. Piezo ignition system not sparking	3. Assure ignitor electrode gap is 0.120" (3.04 mm). 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	1. Relight, hold automatic control valve button in 45 seconds
	2. Low gas pressure	2. Check propane tank(s) for proper gas supply
	3. Thermocouple loose or needs to be replaced	3. Tighten connection or replace thermocouple
	4. Automatic control valve needs to be replaced	4. Replace automatic control valve assembly
Maximum burn rate is low	1. Low gas pressure	1. Check gas supply; check regulator output
	2. Low fuel supply	2. Consult propane gas supplier
	3. Plugged gas orifices	3. Replace burner assembly

ILLUSTRATED PARTS BREAKDOWN AND PARTS LIST

MODELS
RCP25
TC25
REMCP25
SPC-25C
25-C



This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under *Replacement Parts* of this manual.

KEY

NO.	PART NO.	DESCRIPTION	QTY
1	101880-01	Shell Assembly	1
2	101864-01	Burner Assembly Kit	1
3	102445-01	Piezo Ignitor w/ Nut	1
4	103933-01	Thermocouple Bracket	1
5	101878-01	Electrode Ignitor	1
6	099236-01	Thermocouple Kit	1
7	LPA3025	Hose & Regulator Assembly	1
8	112398-01	Base Shield	1
PARTS AVAILABLE - NOT SHOWN			
	117069-01	Tradename Decal	1
	111348-08	Warning Tag (Eng)	1
	111348-09	Warning Tag (Span)	1

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 Heating Products at 1-866-672-6040.

When calling DESA Heating Products, have ready

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

In most cases, we will ask you to return the 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 Heating Products at 1-866-672-6040 for referral information.

When calling DESA Heating Products, have ready

- model number of your heater
- the replacement part number

WARRANTY AND REPAIR SERVICE

KEEP THIS WARRANTY

Model _____

Serial No. _____

Date of Purchase _____

LIMITED WARRANTIES FOR NEW AND FACTORY RECONDITIONED PRODUCTS

New Products: DESA Heating Products warrants this heater and any parts thereof, to be free of defects in materials and workmanship for one (1) year from the date of first purchase, when operated and maintained in accordance with the manufacturer's instructions. These warranties are extended only to the original retail purchaser, when proof of purchase is provided.

Factory Reconditioned Heaters: DESA Heating Products warrants this factory reconditioned heater and any parts thereof, to be free of defects in materials and workmanship for thirty (30) days from the date of first purchase, when operated and maintained in accordance with the manufacturer's instructions. These warranties are 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 Heating Products 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 Heating Products 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.



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