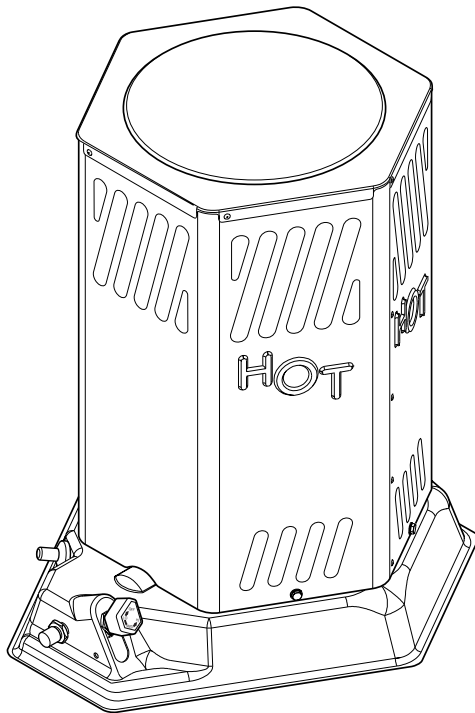


PROPANE CONSTRUCTION HEATER

OWNER'S MANUAL



Models: TC80V and RCP80V

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, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

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 INSTRUCTIONSMANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.



80,000 BTU/HR

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.

The heater is designed for use as a construction heater in accordance with ANSI Z83.7/CGA 2.14. Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these. 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!** Check for proper ventilation and 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 may 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 the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58* and the *Natural Gas Installation Code, CAN/CGA B149.2*. This instructs on the safe storage and handling of propane gases.
- Approved by the New York City Fire Department under Certificate of Approval #4953. To be used only at construction site with applicable New York City codes, regulations, rules, directives, permits, etc.
- This product has been approved for use in the Commonwealth of Massachusetts.
- Use only propane gas set up for vapor withdrawal.
- Provide adequate ventilation. Before using heater, provide at least a 2.5 square foot opening of fresh, outside air. This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.
- For indoor use only. Do not use heater outdoors.
- Keep heater away from strong drafts, wind, water spray, rain, or dripping water.
- Do not use heater in occupied dwellings or in living or sleeping quarters.
- Do not use heater in a basement or below ground level. Propane gas is heavier than air. If a leak occurs, propane gas may sink to the lowest possible level.
- 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.
- Use only the hose and factory preset regulator provided with the heater.
- 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 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 operating.
- Not intended for use on finished floors.
- Never block air inlet (bottom of shell) or air outlet (around top of shell) of heater.
- Do not leave heater unattended.
- Keep children and animals away from heater.
- 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.
- Never attach duct work to heater.
- 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.

OWNER'S MANUAL

PRODUCT IDENTIFICATION

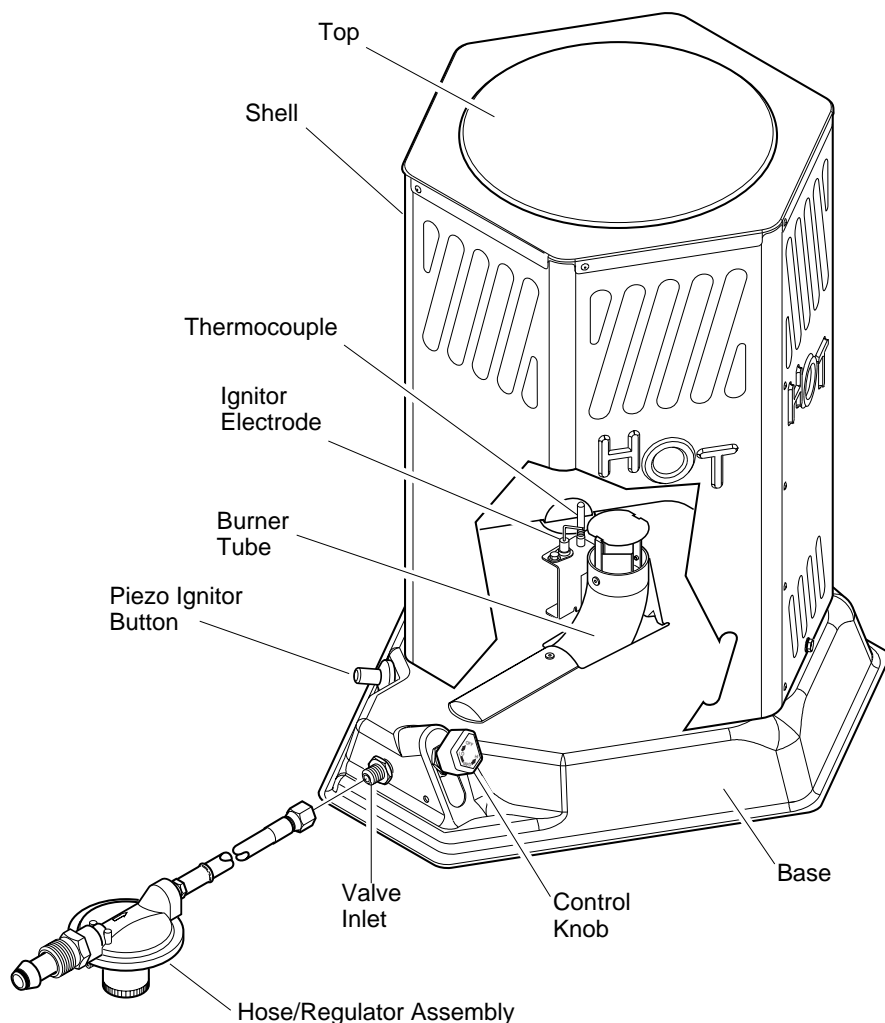


Figure 1 - Product Identification

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 main burner.

The Automatic Control System: This system causes the heater to shut down if the flame goes out.

VENTILATION

⚠ WARNING: Provide at least a 2.5 square foot 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.

UNPACKING

1. Remove all packing items applied to heater for shipment. Keep plastic cover caps (attached to valve inlet 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.

PROPANE SUPPLY

You must provide propane gas and propane tank(s).

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* and/or *CAN/CGA B149.2*. Your local library or fire department will have this booklet.

This heater will operate with a 20-pound propane tank. However, you can only operate it in the LOW position during mildly cool weather. At higher heat settings or during colder weather, you must use larger tanks.

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)

The chart below shows the minimum number of 100-pound tanks needed to run the heater. Connect tanks together with a manifold.

Average Temperature (°F) At Tank Location	
	60° 40° 32° 20° 10° 0°
Number Of Tanks	1 1 1 1 2 2

Less gas is vaporized at lower temperatures. Your local propane gas dealer will help you select the proper supply system.

80,000 BTU/HR

PROPANE CONSTRUCTION HEATER

INSTALLATION

⚠ 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.

⚠ 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. Provide propane supply system (see *Propane Supply*, page 3).
2. Connect fuel gas fitting on hose/regulator assembly to propane tank(s). Turn fuel gas fitting counterclockwise into threads on tank. Tighten firmly using a wrench. **IMPORTANT:** Tighten regulator with vent pointing down. Pointing vent down protects regulator from weather damage.
3. Connect hose to the valve inlet. Tighten firmly using a wrench. You must use the regulator supplied with heater even if propane tank has one.
4. 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 again slowly.
5. Check all connections for leaks. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak that must be corrected.
6. Close propane supply valve.

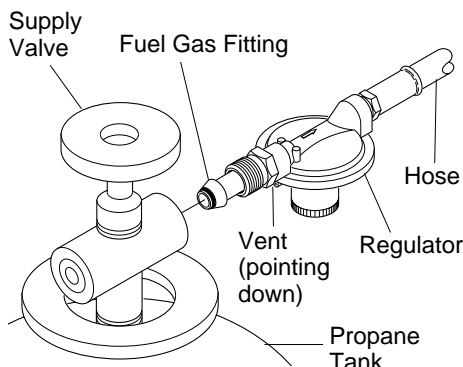


Figure 2 - Regulator With Vent Pointing Down

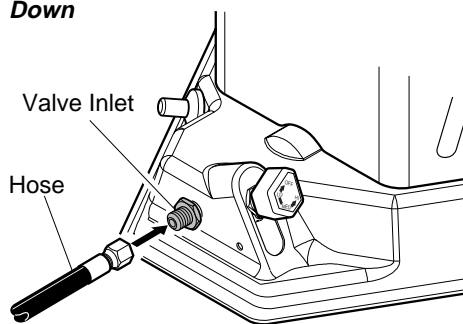


Figure 3 - Hose and Valve Inlet

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. Make sure unit is turned off by slightly depressing and turning control knob fully clockwise to OFF.
4. 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 again slowly.

5. Slightly depress and turn control knob counterclockwise to the LOW position (see Figure 4).
6. With the control knob pushed all the way in, press and release the piezo ignitor button. Keep pressing piezo ignitor button until the burner lights. Hold control knob down for a maximum of 15 seconds while attempting ignition. If heater does not ignite, release control knob and wait 3 minutes before attempting reignition.
7. After ignition, hold control knob down for about 30 seconds. This activates the automatic control system.
8. When burner remains lit, set heater at the desired heat level by slightly depressing the control knob and turning it counterclockwise to the MED or HIGH settings (see Figure 4).
9. If burner goes out, turn off gas. Slightly depress and turn control knob fully clockwise to OFF. Check fuel supply. If adequate fuel is available, restart heater beginning at step #1.

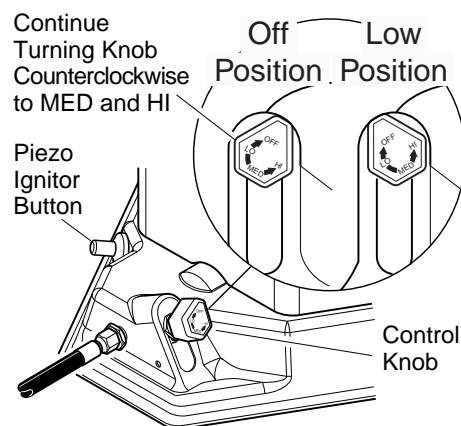


Figure 4 - Control Knob and Piezo Ignitor Button Locations

TO STOP HEATER

1. Tightly close propane supply valve on propane tank(s). Allow heater to burn remaining fuel in hose.
2. Shut off burner. Do this by pushing in the control knob and turning clockwise to the OFF position.

TO RESTART HEATER

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

OWNER'S MANUAL

OPERATION

Continued

FLAME PATTERNS

Figure 5 shows a correct flame pattern. The burner flame is mostly blue with a slight yellow coloring on the ends.

Figure 6 shows an incorrect flame pattern. The flame is mostly yellow. The incorrect flame pattern results from low gas pressure or from flashback.

CAUTION: Running heater below specified input rating may cause flashback. During flashback, the burner flame is mostly yellow. The flame will burn inside the burner tube, causing a roaring noise. If flashback occurs, turn heater off. After burner tube cools, restart the heater.

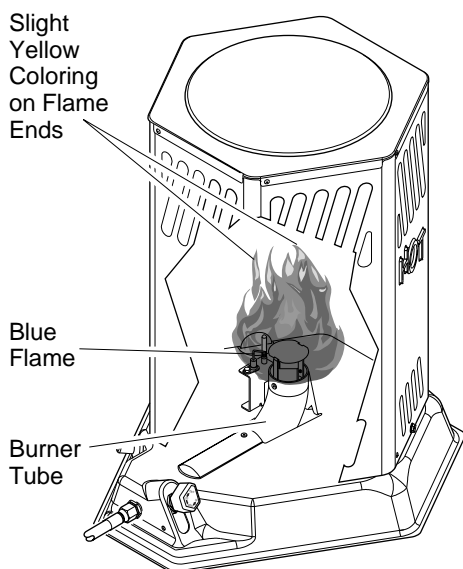


Figure 5 - Correct Flame Pattern at High Position

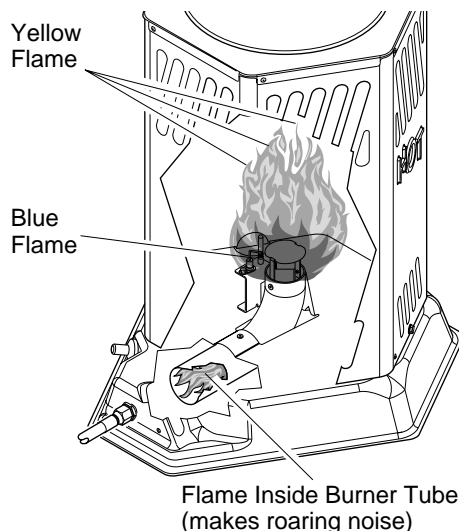


Figure 6 - Incorrect Flame Pattern during Flashback

STORAGE

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

1. Store propane tank(s) in safe manner. Refer to Chapter 5 of *Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58* and/or *CAN/CGA B149.2*. Follow all local codes. Always store propane tanks outdoors.
2. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.
3. 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.

SPECIFICATIONS

Rating (Btu/Hr)	
High	80,000
Low	40,000
Fuel	Propane Vapor Only
Fuel Consumption	
Gallons/Hour	0.87 / 0.44
Pounds/Hour	3.71 / 1.86
Supply Pressure (To Regulator)	
Maximum	200 psi
Minimum, for input adjustment	20 psi
Manifold Pressure (inches of water column)	
High	18
Low	23.8
Ignitor Gap	0.195"
Weight (Pounds)	13
Shipping Weight (Pounds)	17
Size - L x W x H (Inches)	20 x 15 x 16
Minimum Temperature Surrounding Air Temperature	-20°F (-29°C)

80,000 BTU/HR

PROPANE CONSTRUCTION HEATER

TROUBLESHOOTING

Note: For additional help, call DESA International's Technical Service Department at 1-800-323-5190 or visit our website at www.desatech.com.

⚠ 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	<ol style="list-style-type: none">1. Propane supply valve closed on propane tank(s)2. Excess flow check valve closed3. Blockage in burner orifice4. Piezo ignition system not sparking	<ol style="list-style-type: none">1. Open propane supply valve slowly2. Close propane supply valve on propane tank and reopen slowly3. Replace burner orifice4. Check to assure ignitor electrode gap is .195" 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	<ol style="list-style-type: none">1. Not enough warm up time2. Low gas pressure3. Thermocouple loose or needs to be replaced4. Automatic control valve needs to be replaced	<ol style="list-style-type: none">1. Relight, hold automatic control valve button in 45 seconds2. Check propane tank(s) for proper gas supply3. Tighten connection or replace thermocouple4. Replace automatic control valve
Burn rate is low	<ol style="list-style-type: none">1. Control valve is on LOW2. Plugged gas orifice3. Low gas pressure4. Low fuel supply	<ol style="list-style-type: none">1. Push and turn valve counter clockwise to MED or HIGH2. Replace gas orifice3. Check gas supply; check regulator output4. Consult propane gas supplier


OWNER'S MANUAL

ACCESSORIES

Purchase these heater accessories and parts from your nearest dealer or service center. If they can not supply an accessory or part, either contact your nearest Parts Central (listed in the separate Authorized Service Center booklet) or call DESA International's Parts Department at 1-800-972-7879. You can also write to the address listed on the back page of this manual.

Part Number	Description
LPA4020	Fuel Gas Connector Connects regulator to all standard propane tanks. U.L. and A.G.A. listed.
LPA1000	10 Foot Hose
LPA2160	Regulator
LPA3110	Hose and Regulator Assembly

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

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 or call DESA International's Parts Department at 1-800-972-7879 for referral information.

When calling DESA International, have ready

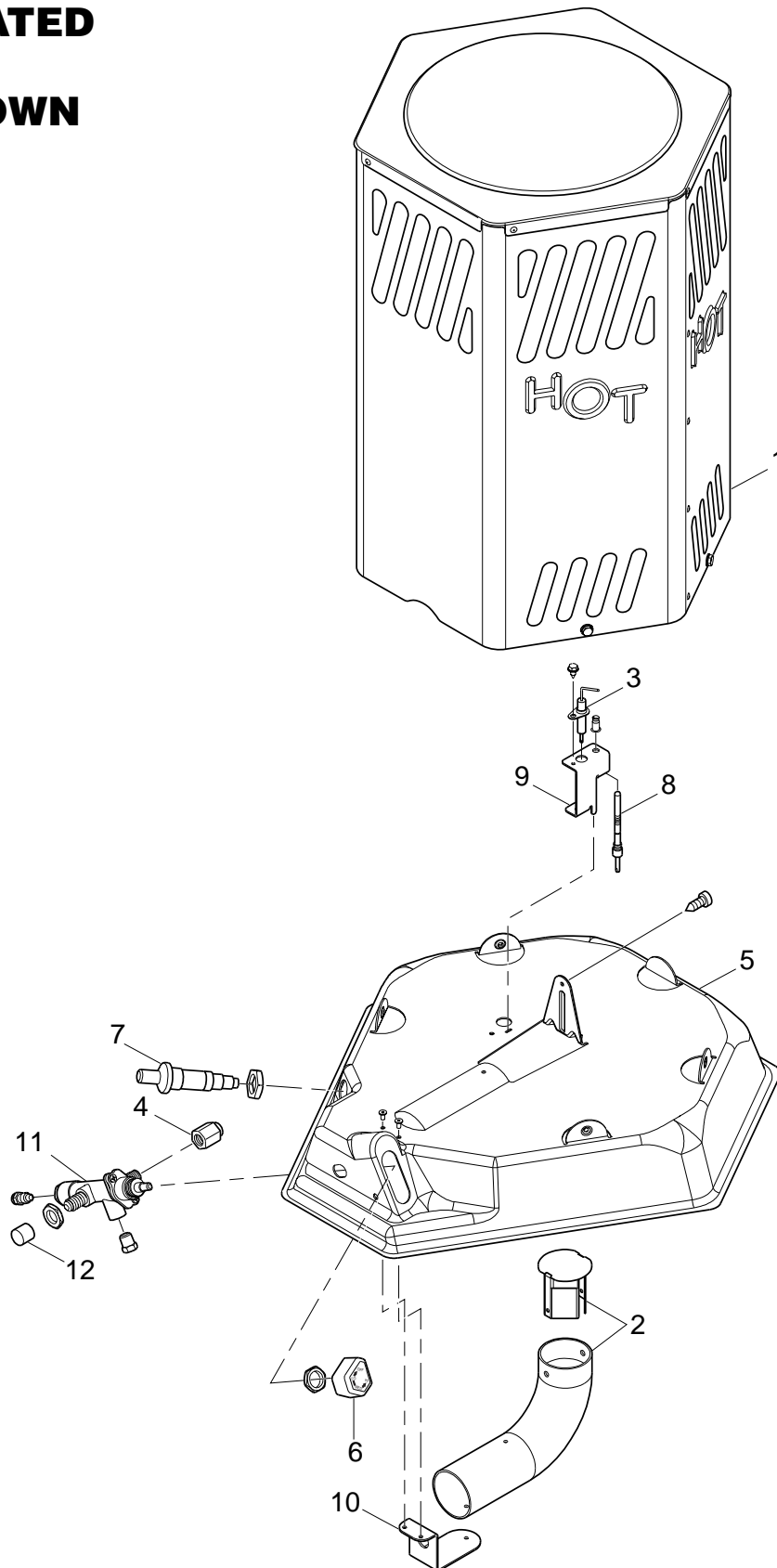
- model number of your heater
- the replacement part number

80,000 BTU/HR

PROPANE CONSTRUCTION HEATER

ILLUSTRATED PARTS BREAKDOWN

TC80V
RCP80V



OWNER'S MANUAL

PARTS LIST

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under *Replacement Parts* on page 7 of this manual.

TC80V
RCP80V

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	103928-01	Top and Shell Assembly	1
2	103929-01	Burner Assembly	1
3	103904-01	Ignitor Electrode	1
4	103032-01	Nozzle	1
5	103031-01	Base	1
6	103036-01	Control Knob	1
7	102445-01	Piezo Ignitor Kit	1
8	099236-01	Thermocouple Kit	1
9	103854-01	Thermocouple Bracket	1
10	103037-01	Nozzle Locator	1
11	103930-01	Valve Assembly	1
12	078978-03	Cap Sleeve	1
PARTS AVAILABLE - NOT SHOWN			
	098853-06	Tradename Decal (TC80V)	1
	098851-05	Tradename Decal (RCP80V)	1
	099681-03	Information Decal	1
	099683-02	Operation Decal	1
ACCESSORIES			
	LPA3110	Regulator & Hose Assembly	1
	LPA2160	Regulator	1
	LPA4020	POL Connector	1
	LPA1000	10' Hose	1

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.

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.

Model _____

Serial No. _____

Date of Purchase _____

DESA

INTERNATIONAL

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



103385 01

NOT A UPC

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