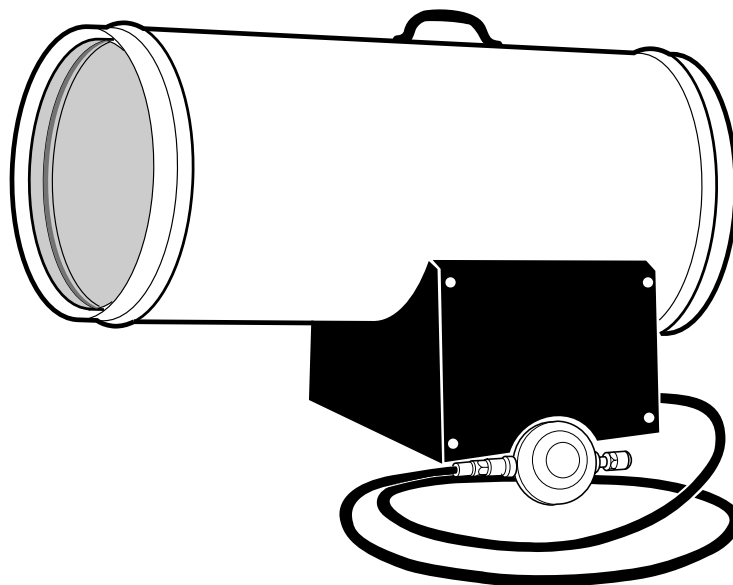


CANADIAN PROPANE CONSTRUCTION HEATERS

OWNER'S MANUAL



For Models RCLP375 and BCLP375

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.



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FOR YOUR SAFETY

Do not use this heater in a space where gasoline or other liquids having flammable vapors are stored or used.

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.

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.

- Do not use heater outdoors or in occupied dwellings. Only use for temporary heating of buildings under construction, alteration, or repair.
- Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and current codes, refer to CAN/CGA-B149.2 Installation Code for Propane. This instructs on the safe storage and handling of propane gases.
- Check heater for damage before each use. Do not use a damaged heater.
- Use only propane gas set up for vapor withdrawal.
- Keep propane tank(s) below 38°C (100° F).
- Use only in well-vented areas. Provide at least a three-square-foot opening of fresh, outside air for each 105.500 kJ/hr (100,000 BTU/Hr) of rating.
- Use only in places free of flammable vapors or high dust content.
- Keep heater away from strong drafts, water spray, rain, or dripping water.
- Use only the electrical voltage and frequency specified on model plate.
- Use only a three-prong, grounded extension cord.
- Use only the hose and factory regulator provided with the heater.
- Inspect hose assembly before each use of heater. If excessive abrasion or wear is seen, or the hose is cut, replace before using heater. Use the replacement hose assembly that is specified by the manufacturer.
- Keep heater at least six feet from propane tank(s). Do not point heater at propane tank(s) within 6 m (20 feet).
- Minimum heater clearances from combustibles:
Front outlet: 3 m (10 Ft.) Sides: 0,61 m (2 Ft.)
Top: 2 m (6 Ft.) Rear: 0,61 m (2 Ft.)
- Locate heater on stable and level surface while it is hot or running.
- Keep children and animals away from heater.
- Unplug heater when not in use.
- Never use heater in living or sleeping quarters.
- Never block air inlet (rear) or air outlet (front) of heater.
- Never move, handle, or service a hot, operating, or plugged-in heater.
- Never attach duct work to front or rear of heater.
- Do not adjust regulator below 48 kPa (7 psig) or above 138 kPa (20 psig).
- 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.

PRODUCT IDENTIFICATION

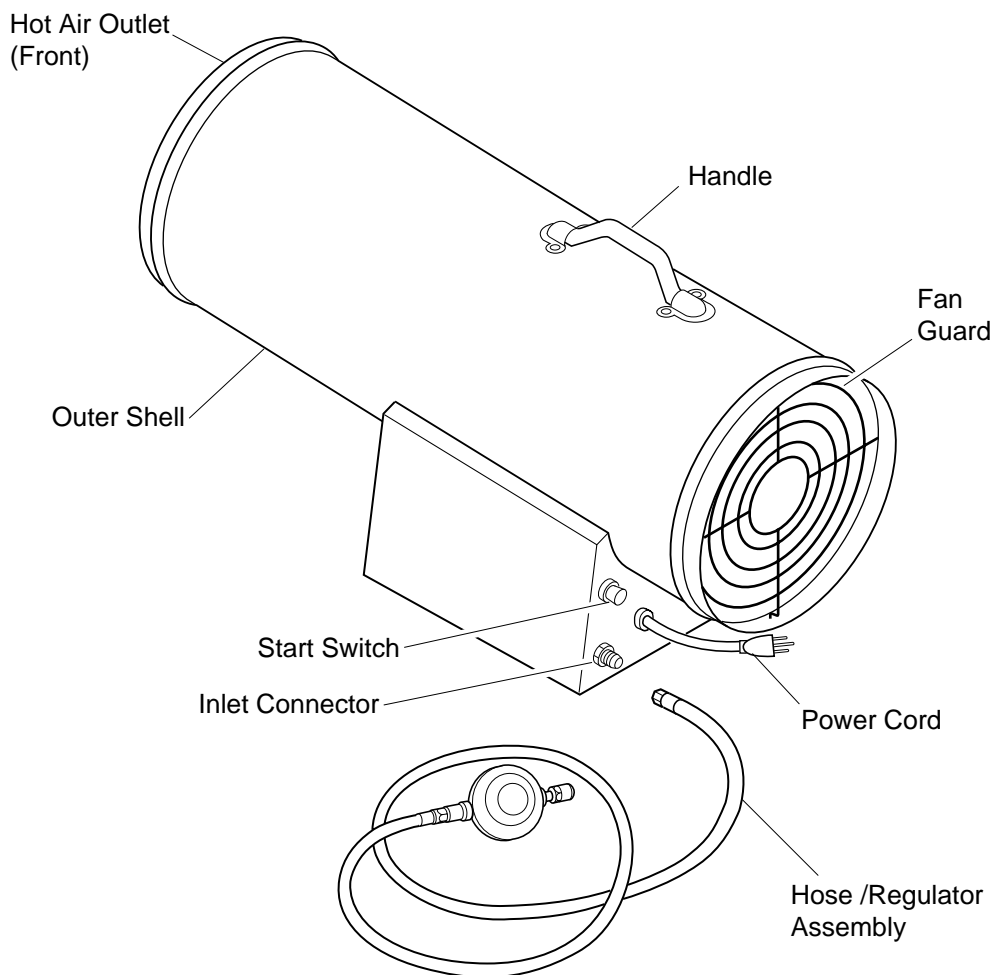


Figure 1 - RCLP375 and BCLP375 Models

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. The propane gas moves through the solenoid valve and out the nozzle.

The Air System: The motor turns the fan. The fan pushes air into and around the combustion chamber. This air is heated and provides a stream of clean, hot air.

The Ignition System: The burner control sends voltage to the ignitor. The ignitor ignites the fuel and air mixture.

The Safety Control System: This system causes the heater to shut down if the flame goes out. The motor will continue to run, but no heat is produced.

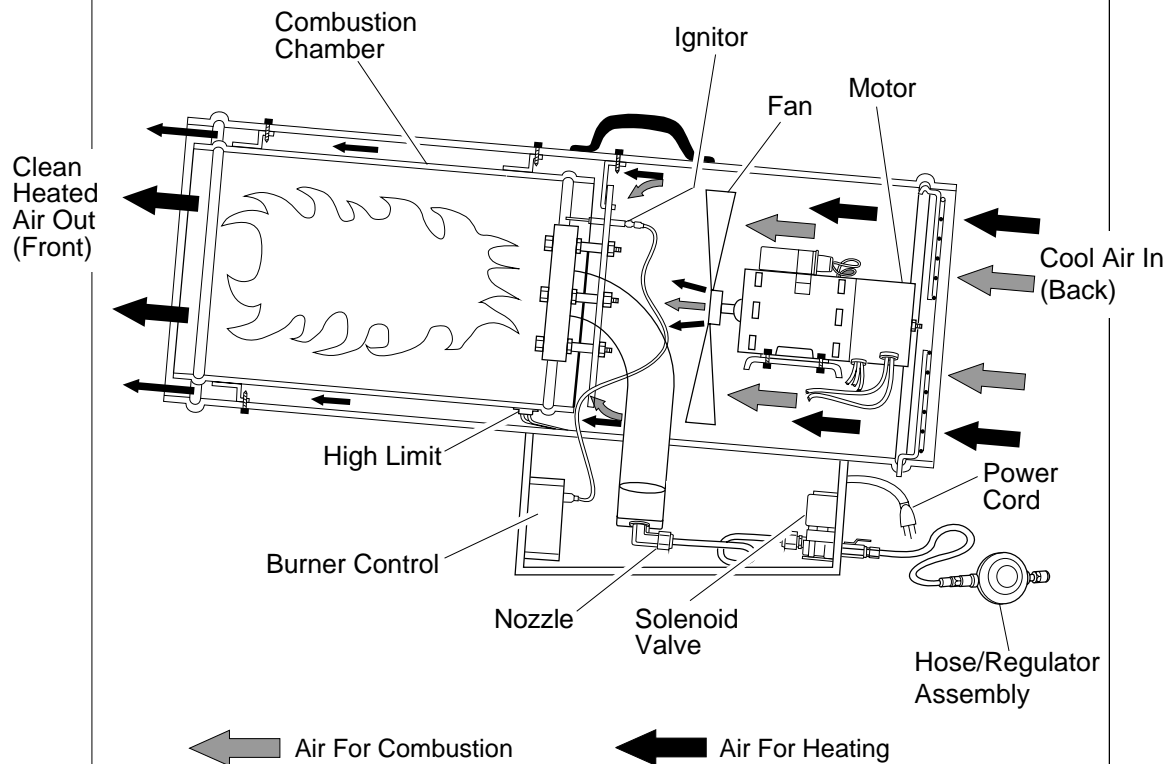


Figure 2 - Cross Section Operational View

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.

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 number of 45-kg (100-pound) tanks needed to run this heater. Do not operate this product with any tank smaller than 45-kg (100 pounds).

		Temperature °C (°F) At Tank					
		4,5 °C (40 °F)	0 °C (32 °F)	-6.2 °C (20 °F)	-17.7 °C (0 °F)	-23.3 °C (-10 °F)	-28.9 °C (-20 °F)
Number of tanks	3	(Use larger tank below 4,5°C [40°F])					

Less gas is vaporized at lower temperatures. You may need a larger tank in colder weather. Your local propane gas dealer will help you select the proper supply system.

INSTALLATION

WARNING

Review and understand the warnings in the Safety Information Section, page 3. 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* above).
2. Connect POL fitting on hose/regulator assembly to propane tank(s). Turn POL fitting counterclockwise into threads on tank. Tighten firmly using 2,22 cm (7/8 in.) wrench. **IMPORTANT:** Tighten regulator with black adjustment knob pointing down. Pointing adjustment knob down protects regulator from weather damage.

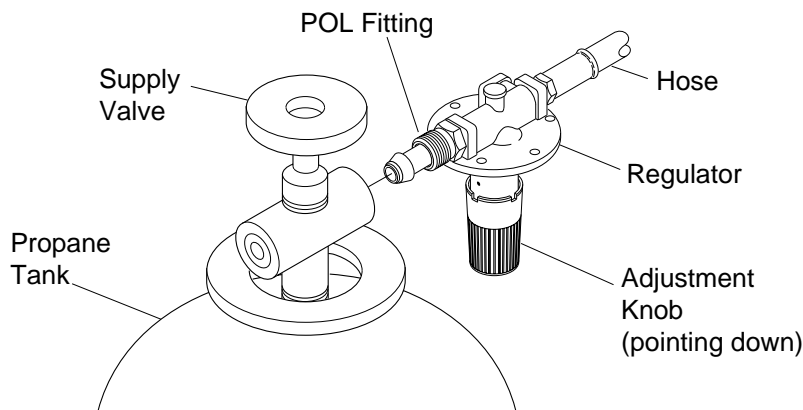


Figure 3 - Regulator With Adjustment Knob Pointing Down

INSTALLATION

Continued

3. Connect hose to inlet connector. Tighten firmly using a wrench.
IMPORTANT: Use extra hose or piping if needed. Install extra hose or piping between hose/regulator assembly and propane tank. You must use the regulator supplied with heater.

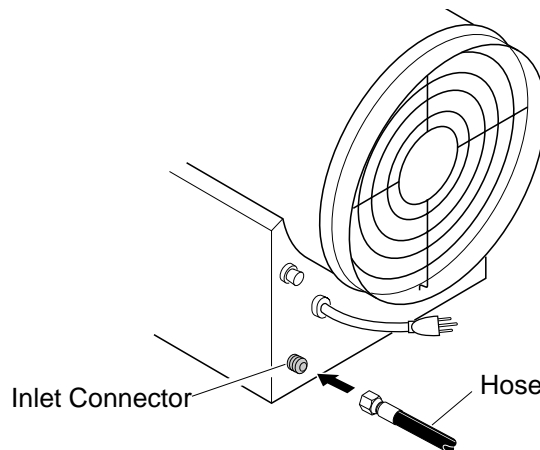


Figure 4 - Hose and Inlet Connector

4. Open propane supply valve on propane tank(s) slowly. **Note:** If not opened slowly, excess-flow check valve on propane tank will stop gas flow. If this happens, close propane supply valve and open again slowly.
5. Adjust regulator between 48 and 138 kPa (7 and 20 psig) (see Figure 5).
Note: Higher regulator setting will allow heater to produce more heat.

WARNING

Do not adjust regulator below 48 kPa (7 psig) or above 138 kPa (20 psig). Heater may not run properly.

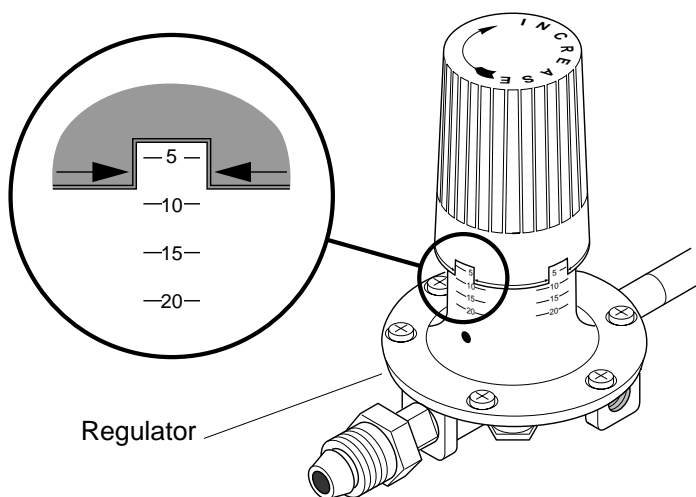


Figure 5 - Adjustable Regulator Set At 48 kPa (7 psig)

6. Check all connections for leaks.

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 leaks at once.

7. Close propane supply valve.

VENTILATION

WARNING

Follow the minimum fresh, outside air ventilation requirements. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

Provide at least a 0,28 m² (three-square-foot) opening of fresh, outside air for each 105.500kJ/hr (100,000 BTU/Hr) of rating. This heater requires a fresh-air opening of at least 1 m² (9.75 square feet). Provide extra fresh air if using more heaters.

OPERATION

WARNING

Review and understand the warnings in the Safety Information Section, page 3. 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 into front or rear of heater.
3. Plug power cord of heater into a three-prong, grounded extension cord. Extension cord must be at least 2 m (6 ft.) long, CSA listed, and of a proper size.
4. Plug extension cord into a 120 volt/60 hertz, three-hole, grounded outlet.
5. Open propane supply valve on propane tank(s) slowly. *Note:* If not opened slowly, excess-flow check valve on propane tank will stop gas flow. If this happens, close propane supply valve and open again slowly.
6. Make sure regulator is set between 48 and 138 kPa (7 and 20 psig).
Note: Higher regulator setting will allow heater to produce more heat.

WARNING

Do not adjust regulator below 48 kPa (7 psig) or above 138 KPa (20 psig). Heater may not run properly.

7. Push start switch to start heater. Heater will start within six seconds.
Note: If heater does not start, unplug the heater. Wait ten seconds for safety control to reset, then try again.

To Stop Heater

1. Tightly close propane supply valve on propane tank(s).
2. Wait a few seconds. Heater will burn gas left in supply hoses.
3. Unplug heater.

To Restart Heater

If safety control stops gas flow to heater, motor will continue to run.

To restart heater:

1. Unplug the heater. Wait ten seconds for safety control to reset.
2. Plug in heater. Push start switch.

TROUBLE-SHOOTING

If heater does not start or restart

- Check manual valves (if any) and supply valves (on propane tank). Make sure they are open.
- Check fuel level in propane tank(s). If fuel level is too low, contact local propane gas company.

If heater still does not start or restart, contact your local service center.

MAINTENANCE

WARNING

- **Never service heater while it is plugged in, connected to propane supply, operating, or hot. Severe burns and electrical shock can occur.**
- **Keep heater clear and free from combustible materials, gasoline, and other flammable vapors and liquids.**
- **Do not block the flow of combustion or ventilation air.**

1. Keep heater clean. Clean heater annually or as needed to remove dust and debris. If heater is dirty or dusty, clean heater with a damp cloth. Use household cleaners on difficult spots.
2. Inspect heater before each use. Check connections for leaks. Apply mixture of liquid soap and water to connections. Bubbles forming show a leak. 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 service person.
5. Keep inside of heater free from combustible and foreign objects.

STORAGE

CAUTION

Disconnect heater from propane supply tank(s).

1. Store propane tank(s) in safe manner. Follow all local codes.
2. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.
3. Store in dry, clean, and safe place. Do not store hose/regulator assembly inside heater combustion chamber.
4. When taking heater out of storage, always check inside of heater. Insects and small animals may place foreign objects in heater. Keep inside of heater free from combustible and foreign objects.

SERVICE PROCEDURE

Cleaning fan

Clean fan every 500 hours of operation or as needed.

1. Remove screws on side cover using 7,8 mm (5/16 in.) nut-driver.
2. Remove side cover.
3. Detach the five motor wires from parts under heater shell. Be sure to detach only wires coming from motor. The five motor wires are:
 - white wire—to terminal board
 - red wire—to terminal board
 - blue wire—to thermal switch wire
 - blue wire—to solenoid valve
 - green wire—to grounding screw on shell
4. Remove fan guard from rear of heater.
5. Reach into rear of heater shell. Carefully pull motor wires through hole in bottom of shell. **Note:** Pull wires through hole one at a time.
6. Remove nuts and mounting bolts holding motor mount to shell. Use 9,5 mm (3/8") nut-driver and 11,1 mm (7/16") wrench.
7. Carefully pull motor and fan out of shell. **IMPORTANT:** Be careful not to damage fan. Do not set motor and fan down with the weight resting on fan. This could damage fan pitch.
8. Turn motor and fan around. Place motor and fan into shell backwards. **Note:** Motor will go into shell first (see Figure 8, page 11).

⚠ WARNING

Never service heater while it is plugged in, connected to propane supply, operating, or hot. Severe burns and electrical shock can occur.

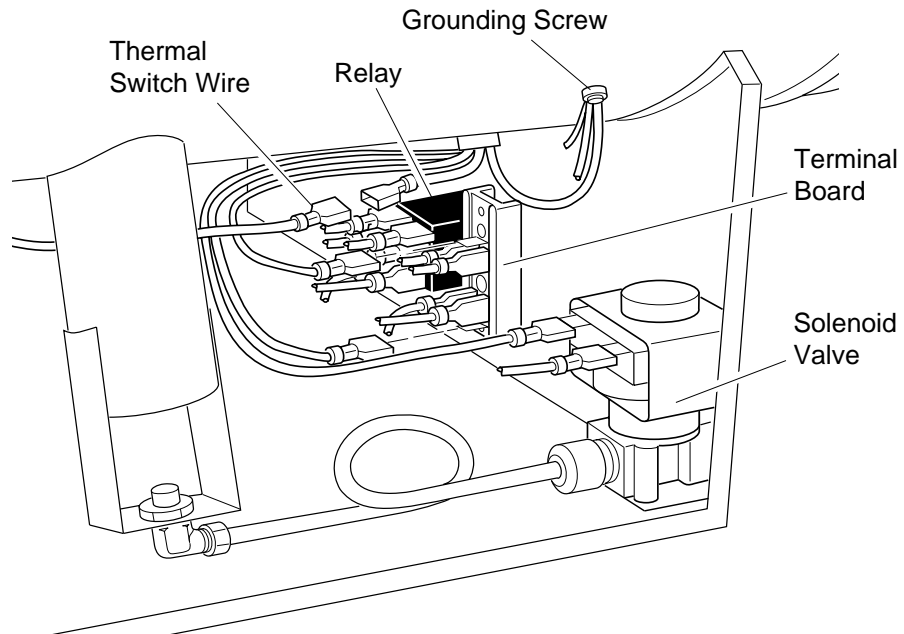


Figure 6 - Location of Motor Wires

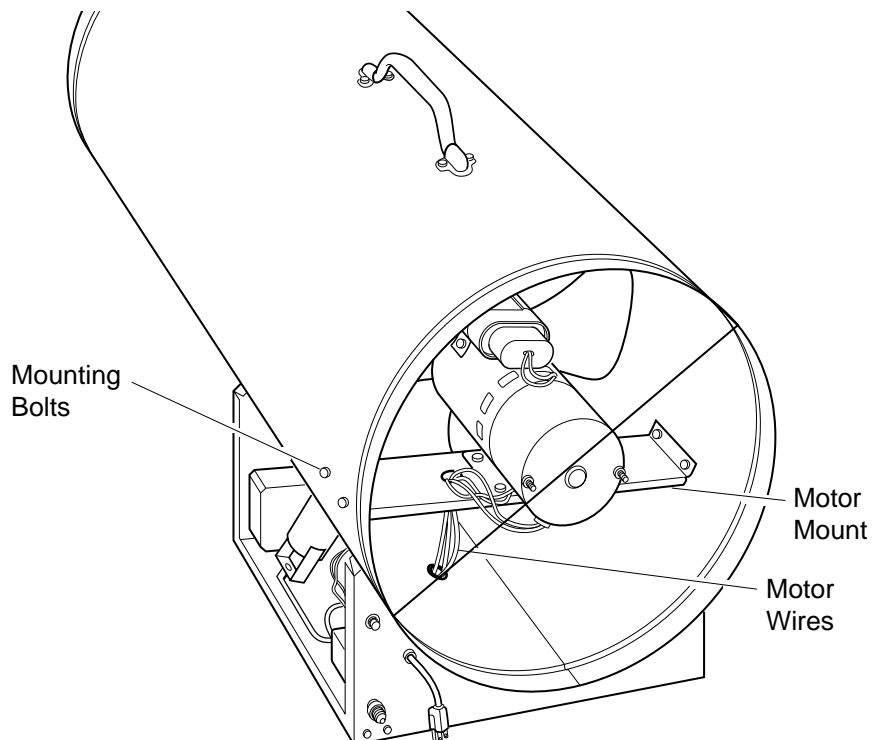


Figure 7 - Location of Fan and Motor

9. Line up rear mounting holes in shell with first hole on each side of motor mount (see Figure 8).
Note: When holes are lined up, fan should be outside of shell.
10. Holding mounting bolt, carefully reach through fan blades into rear of heater. Be careful not to damage fan pitch. Insert bolt through motor mount and shell. With free hand, attach nut finger tight. Repeat process for other mounting hole.
11. Use 3,1 mm (1/8") hex wrench to loosen setscrew which holds fan to motor shaft (see Figure 9).
12. Slip fan off motor shaft.
13. Clean fan using soft cloth moistened with kerosene or solvent.
14. Dry fan thoroughly.
15. Replace fan on motor shaft. Make sure setscrew is touching back of flat surface on motor shaft (see Figure 10).
16. Place setscrew on flat of shaft. Tighten setscrew firmly (4,52-5,65 [40-50 inch-pounds]).
17. Remove two nuts and bolts securing motor mount to shell.
18. Pull motor and fan from shell. Turn motor and fan around. Carefully place back in shell. **Note:** Fan will go into shell first.
19. Line up mounting holes in shell with holes on motor mount. Replace four bolts through shell and motor mount. Insert bolts from outside of heater. Tighten nuts firmly.
20. Route motor wires through hole in bottom of shell (see Figure 7, page 10).

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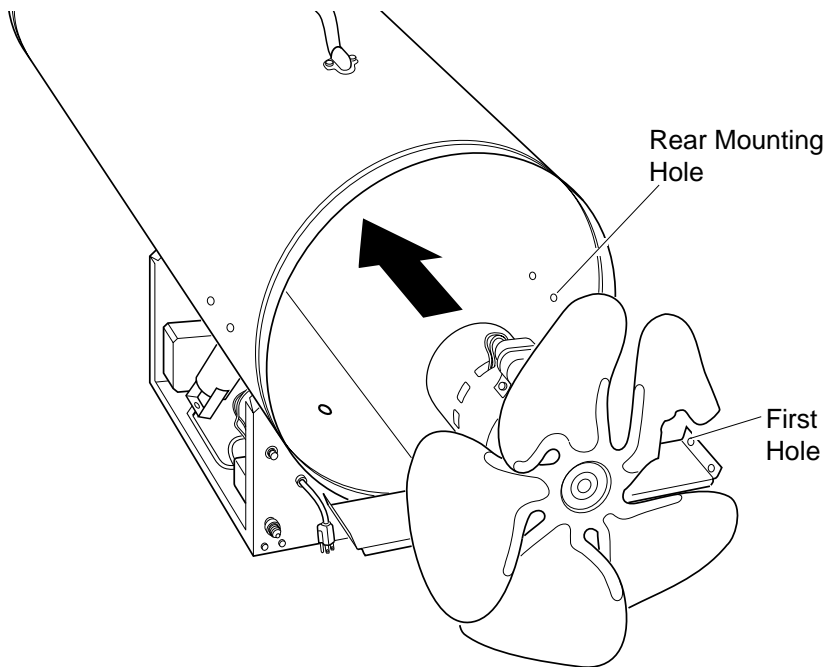


Figure 8 - Fan and Motor Turned Around

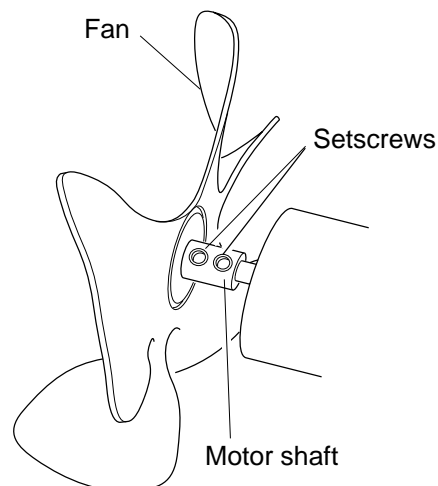


Figure 9 - Fan, Motor Shaft, and Setscrew Locations

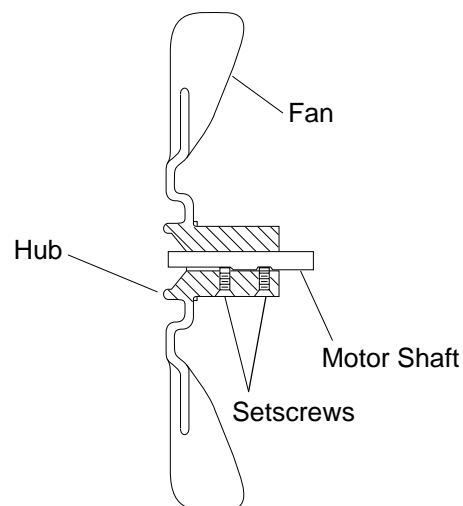


Figure 10 - Fan Cross Section

SERVICE PROCEDURE

Continued

21. Connect motor wires as follows (see Figure 6, page 10):
 - white wire—to terminal board. *Note:* Attach to empty connector on white wire side of terminal board.
 - red wire—to terminal board. *Note:* Attach to empty connector on black wire side of terminal board.
 - blue wire—to thermal switch wire
 - blue wire—to solenoid valve
 - green wire—to grounding screw on shell
22. Replace side cover.
23. Replace fan guard.

SPECIFICATIONS

Model	RCLP375 and BCLP375
Input Rating (kJ/Hr) (BTU/Hr)	168.800 to 332.325 (160,000 to 315,000)
Fuel	Propane Vapor Only
Fuel Consumption	
Gallons/Hour	6,8 l/h min./13,6 l/h max. (1.8 Minimum/3.6 Maximum)
Pounds/Hour	3,35kg/h min./ 6,85 kg/h max. (7.4 Minimum/15.1 Maximum)
Supply Pressure To Regulator	
Minimum (for purposes of input adjustment)	172 kPa (25 psig)
Maximum	1379 kPa (200 psig)
Regulator Outlet Pressure	48 - 138 kPa (7-20 psig)
Motor	1700 RPM
Electric Input	120 V/60 Hz
Amperage	3.0
Weight	
Heater	18, 1 kg (40 lbs.)
Shipping	21,8 kg (48 lbs.)
Size - L x W x H	
Heater	89 cm x 33 cm x 51 cm (35 in. x 13 in. x 20 in.)
Carton	94 cm x 40,5 cm x 53,5 cm (37 in. x 16 in. x 21in.)

WIRING DIAGRAM

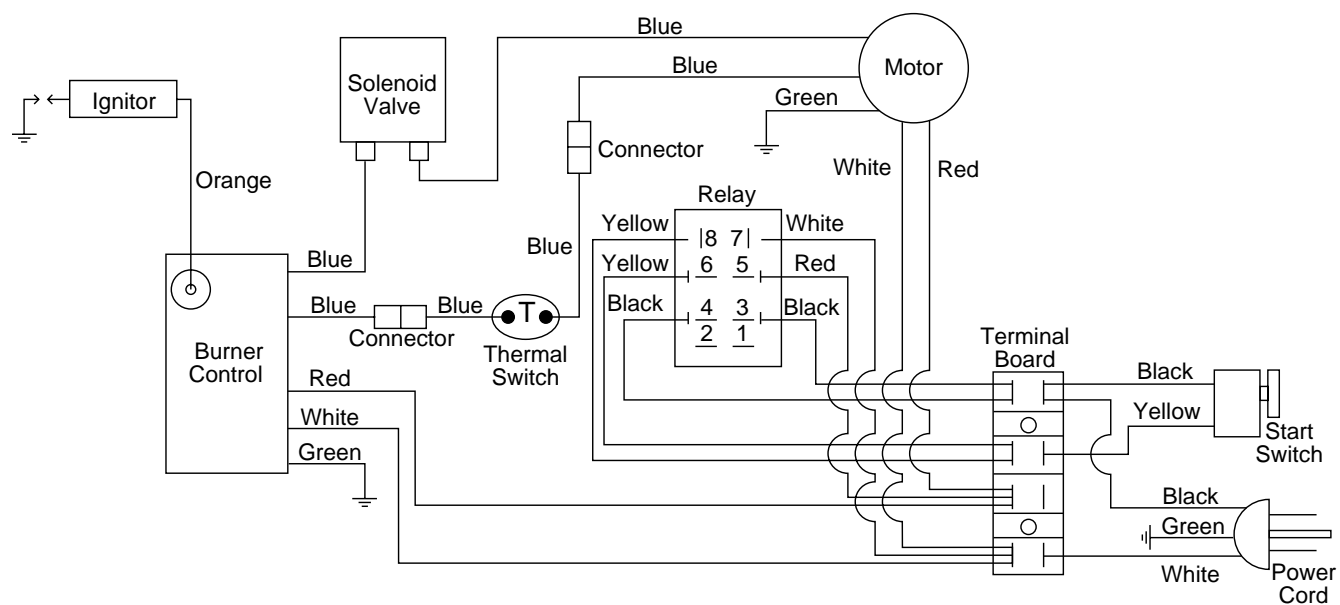


Figure 11 - Wiring Diagram

ACCESSORIES

Purchase accessories and parts from your nearest dealer or service center. If your dealer or service center can not supply an accessory or part, call DESA Industries' Parts Department at 905-826-8010. You can also write to the address listed on the back page of this manual.

Hose: LPA1020

A 10 foot hose for locating heater further away from propane tank(s).

Regulator: LPA2020

Hose and Regulator Assembly: LPA3030

Fuel Gas Connector: LPA4020

A POL adapter with excess-flow check valve.

TECHNICAL SERVICE

You may have further questions about this heater. If so, contact DESA International's Technical Service Department at 1-800-323-5190.

SERVICE PUBLICATIONS

You can receive an Illustrated Parts List free of charge. Send your request and a self-addressed, stamped envelope to DESA Industries (address on back page). Be sure to include the heater model number. You can purchase a service manual for \$5. Make check payable to DESA Industries.

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 protect your warranty coverage for parts replaced under warranty.

Parts Under Warranty

Contact authorized dealers of this product. If they cannot supply original replacement part(s), call DESA Industries at 1-905-826-8010. When calling DESA Industries, have ready:

- your name
- your address
- model number 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 cannot supply original replacement part(s), call DESA Industries' Parts Department at 905-826-8010. When calling DESA Industries, have ready:

- model number of your heater
- the replacement part number

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WARRANTY AND REPAIR SERVICE

LIMITED WARRANTY

DESA Industries warrants this product and any parts thereof, to be free from defects in materials and workmanship for six (6) months 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 OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DESA Industries assumes no responsibility for indirect, incidental or consequential damages. Some provinces do not allow the exclusion or limitation of incidental or consequential damages. These 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 province to province.

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 Industries will repair or replace the heater without charge.

REPAIR SERVICE

Return the heater to your nearest authorized service center. Repairs not covered by the warranty will be billed at standard prices.

A service manual may be purchased from the address listed below. Send a cheque for \$5.00 payable to DESA Industries.

Illustrated parts lists can be obtained free of charge. Send a self-addressed stamped envelope to the address listed below. List the heater model number and the date located in the lower right corner of this page.

When writing for information regarding your heater, be sure to include the model number and serial number as shown on the model plate.

Each Service Center is independently owned and operated.

We reserve the right to amend these specifications at any time without notice.

KEEP THIS WARRANTY

Model _____

Serial No. _____

Date of Purchase _____

(To be filled in by purchaser)

DESA

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Unit #4

Mississauga, Ontario

L5N 2K7

905-826-8010

FAX 905-826-8236

100165-01

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