

⚠ GENERAL HAZARD WARNING

- Failure to comply with the precautions and instructions provided with this heater, can result in:
 - Death
 - Serious bodily injury or burns
 - Property damage or loss from fire or explosion
 - Asphyxiation due to lack of adequate air supply or carbon monoxide poisoning
 - Electrical shock
- Read this Owner's Manual before installing or using this product.
- Only properly-trained service people should repair or install this heater.
- Save this Owner's Manual for future use and reference.
- Owner's Manuals and replacement labels are available at no charge. For assistance, contact L.B. White at 800-345-7200.

⚠ WARNING

- Proper gas supply pressure must be provided to the inlet of the heater.
- Refer to data plate for proper gas supply pressure.
- Gas pressure in excess of the maximum inlet pressure specified at the heater inlet can cause fires or explosions.
- Fires or explosions can lead to serious injury, death, or building damage.
- Gas pressure below the minimum inlet pressure specified at the heater inlet may cause improper combustion.
- Improper combustion can lead to asphyxiation or carbon monoxide poisoning and therefore serious injury or death.

⚠ WARNING

Fire and Explosion Hazard

- Not for home or recreational vehicle use.
- Installation of this heater in a home or recreational vehicle may result in a fire or explosion.
- Fire or explosions can cause property damage or loss of life.

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.

FOR YOUR SAFETY

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

⚠ WARNING

Fire and Explosion Hazard

- Keep solid combustibles a safe distance away from the heater.
- Solid combustibles include wood, paper, or plastic products, building materials and dust.
- Do not use the heater in spaces which contain or may contain volatile or airborne combustibles.
- Volatile or airborne combustibles include gasoline, solvents, paint thinner, dust particles or unknown chemicals.
- Failure to follow these instructions may result in a fire or explosion.
- Fire or explosions can lead to property damage, personal injury or loss of life.

Heater Specifications

SPECIFICATIONS

Model

CP170

Fuel Type	Propane Gas	Natural Gas
Maximum / Minimum Input (BTU/H)	170,000 / 125,000	155,000 / 125,000
Burner Manifold Pressure (in. W.C.)	11.0	5.5
Inlet Gas Supply Pressure Acceptable at the Gas Connection of the Heater. (in. W.C.)	MAX. 11.1 MIN. 11.1	13.5 7.0
Fuel Consumption Per Hour	MAX. 7.87 lbs.	155 cu. ft.
Motor Characteristics	Sleeve Bearing 1/15 H.P., 3,200 RPM	
Electrical Supply (Volts/Hz/Phase)	115/60/1	
Amperage Draw	STARTING 3.7 CONTINUOUS OPERATION 2.14	
Dimensions (Inches) L x W x H	24 x 9 x 16	
Minimum Safe Distances From Nearest Combustible Materials (feet)	TOP 6 SIDES 3 BACK 3 BLOWER OUTLET 10 GAS SUPPLY 6	N/A

Safety Precautions

⚠ WARNING Asphyxiation Hazard

- Do not use this heater for heating human living quarters.
- Do not use in unventilated areas.
- The flow of combustion and ventilation air must not be obstructed.
- Proper ventilation air must be provided to support the combustion air requirements of the heater being used.
- Lack of proper ventilation air will lead to improper combustion.
- Improper combustion can lead to carbon monoxide poisoning, leading to serious injury or death. Symptoms of carbon monoxide poisoning can include headaches, dizziness and difficulty in breathing.

FUEL GAS ODOR

Propane gas and natural gas have man-made odorants added specifically for detection of fuel gas leaks. If a gas leak occurs, you should be able to smell the fuel gas. THAT'S YOUR SIGNAL TO GO INTO IMMEDIATE ACTION!

- Do not take any action that could ignite the fuel gas. Do not operate any electrical switches. Do not pull any power supply or extension cords. Do not light matches or any other source of flame. Do not use your telephone.
- Get everyone out of the building and away from the area immediately.
- Close all propane gas tank or cylinder fuel supply valves, or the main fuel supply valve located at the meter if you use natural gas.
- Propane gas is heavier than air and may settle in low areas. When you have reason to suspect a propane leak, keep out of all low areas.
- Use your neighbor's phone and call your fuel gas supplier and your fire department. Do not re-enter the building or area.
- Stay out of the building and away from the area until declared safe by the firefighters and your fuel gas supplier.
- FINALLY**, let the fuel gas service person and the firefighters check for escaped gas. Have them air out the building and area before you return. Properly trained service people must repair the leak, check for further leakages, and then relight the appliance for you.

ODOR FADING – NO ODOR DETECTED

- Some people cannot smell well. Some people cannot smell the odor of the man-made chemical added to propane or natural gas. You must determine if you can smell the odorant in these fuel gases.**
- Learn to recognize the odor of propane gas and natural gas. Local propane gas dealers will be more than happy to give you a scratch and sniff pamphlet. Use it to become familiar with the fuel gas odor.
- Smoking can decrease your ability to smell. Being around an odor for a period of time can affect your sensitivity to that particular odor.
- The odorant in propane gas and natural gas is colorless and the intensity of its odor can fade under some circumstances.
- If there is an underground leak, the movement of gas through the soil can filter the odorant.
- Propane gas odor may differ in intensity at different levels. Since propane gas is heavier than air, there may be more odor at lower levels.
- Always be sensitive to the slightest gas odor.** If you continue to detect any gas odor, no matter how small, treat it as a serious leak. Immediately go into action as discussed previously.

ATTENTION – CRITICAL POINTS TO REMEMBER!

- Propane gas has a distinctive odor. Learn to recognize these odors. (Reference Fuel Gas Odor and Odor Fading sections above.)
- If you have not been properly trained in repair and service of propane gas then do not attempt to light heater, perform service or repairs, or make any adjustments to the heater on the propane gas fuel system.
- Even if you are not properly trained in the service and repair of the heater, ALWAYS be consciously aware of the odors of propane gas and natural gas.
- A periodic sniff test, around the heater or at the heater's joints, i.e. hose, connections, etc., is a good safety practice under any conditions. If you smell even a smelly amount of gas, CONTACT YOUR FUEL GAS SUPPLIER IMMEDIATELY. DO NOT WAIT!

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⚠ WARNING Burn Hazard

- High surface and discharge temperatures.
- Do not touch the heater or come within safe clearances given on dataplate.
- Use extreme caution when lighting the heater or adjusting heat levels.
- Failure to follow this warning and come too close to the heater can result in burns or ignition of clothing. Burns cause serious injury or death.

- Do not attempt to install, repair, or service this heater or the gas supply line unless you have continuing expert training and knowledge of gas heaters.

Qualifications for service and installation of this equipment are as follows:

- To be a qualified gas heater service person, you must have sufficient training and experience to handle all aspects of gas-fired heater installation, service and repair. This includes the task of installation, troubleshooting, replacement of defective parts and testing of the heater. You must be able to place the heater into a continuing safe and normal operating condition. You must completely familiarize yourself with each model heater by reading and complying with the safety instructions, labels, Owner's Manual, etc., that is provided with each heater.
 - To be a qualified gas installation person, you must have sufficient training and experience to handle all aspects of installing, repairing and altering gas lines, including selecting and installing the proper equipment, and selecting proper pipe and tank size to be used. This must be done in accordance with all local, state and national codes as well as the manufacturer's requirements.
 - In the Commonwealth of Massachusetts, this product must be installed by a gas fitter licensed by the Commonwealth of Massachusetts.
 - All installations and applications of L.B. White heaters must meet all relevant local, state and national codes. Included are L.P. gas, natural gas, electrical, and safety codes. Your local fuel gas supplier, a local licensed electrician, the local fire department or similar government agencies, or your insurance agent can help you determine code requirements.
- Also refer to:
- ANSI/NFPA 58, latest edition, Standard for Storage and Handling of Liquefied Petroleum Gas
 - ANSI Z223.1/NFPA 54, National Fuel Gas Code
 - ANSI/NFPA 70, National Electrical Code
- Adequate ventilation air for combustion must be provided in accordance with OSHA 29 CFR 1926.154, Temporary Heating Devices, and ANSI A10.10, Safety Requirements for Temporary and Portable Space Heating Devices.
 - We cannot anticipate every use which may be made of our heaters. Check with the local fire safety authority if you have questions about applications.
 - Forced air heaters shall not be directed toward any propane gas container within 20 feet (6.10 meters).
 - Do not wash the heater. Use only compressed air, a soft brush or dry cloth to clean the interior of the heater and it's components.
 - Use only the regulator supplied with the heater. The heater must be regulated at all times for proper operation.
 - For safety, this heater is equipped with auto reset, limit switches, and an air proving switch. Never operate the heater with any safety device that has been bypassed. Do not operate this heater unless these features are fully functioning.
 - Do not block air inlets or discharge outlets of the heater. Doing so may cause improper combustion or damage to heater components leading to property damage.
 - The hose assembly shall be visually inspected on a daily basis after heater relocation and when the heater is in use. If it is evident there is excessive abrasion or wear, or if the hose is cut, it must be replaced prior to the heater being put into operation. The hose assembly shall be protected from building materials, and contact with hot surfaces during use. The hose assembly shall be that specified by the manufacturer. See parts list.
 - Check for gas leaks and proper function upon heater installation, when relocating, and after servicing. Refer to leak check instructions within installation section of this manual.
 - This heater should be inspected for proper operation by a qualified service person before each use and at least annually.
 - Always turn off the gas supply to the heater if the heater is not going to be used in the heating of the work space.
 - This heater is equipped with a three-prong (grounding) plug for your protection against shock hazard and must be plugged directly into a properly grounded three-prong receptacle. Failure to use a properly grounded receptacle can result in electrical shock, personal injury, or death.
 - If gas flow is interrupted and flame goes out, do not relight the heater until you are that all gas that may have accumulated has cleared away. In any event, do not relight the heater for at least 5 minutes.
 - Minimum propane gas supply cylinder size to be used shall be 100 pounds when using a cylinder supply system. The system must be arranged to provide vapor withdrawal from the operating cylinder.
 - When the heater is to be stored indoors, the connection between the propane gas supply cylinder(s) and the heater must be disconnected and the cylinder(s) removed from the heater and stored in accordance with the Standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58.
 - Propane gas supply containers have left handed threads. Always use the appropriate wrench to make a connection to tighten or loosen the P.O.L. fitting at the cylinders' gas supply valve.

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Installation and Assembly Instructions

GENERAL

⚠ WARNING

Fire and Explosion Hazard

Can cause property damage, severe injury or death

To avoid dangerous accumulation of fuel gas, turn off gas supply at the heater service valve before starting installation, and perform gas leak test after completion of installation.

8. Check all connections for gas leaks using approved gas leak detectors. Gas leak testing is performed as follows:

⚠ WARNING

Fire and Explosion Hazard

- Do not use open flame (matches, torches, candles, etc.) in checking for gas leaks.
- Use only approved leak detectors.
- Failure to follow this warning can lead to fires or explosions.
- Fires or explosions can lead to property damage, personal injury or loss of life.

- Check all pipe connections, hose connections, fittings and adapters upstream of the gas control with approved gas leak detectors.

- In the event a gas leak is detected, check the components involved for cleanliness and proper application of pipe compound before further tightening.

- Tighten the gas connections as necessary to stop the leak.

- After all connections are checked and any leaks are stopped, turn on the main burner.

- Stand clear while the main burner ignites to prevent injury caused from hidden leaks that could cause flashback.

- With the main burner in operation, check all connections, hose connections, fittings and joints as well as the gas control valve inlet and outlet connections with approved gas leak detectors.

- If a leak is detected, check the components involved for cleanliness in the thread areas and proper application of pipe compound before further tightening.

- Tighten the gas connection as necessary to stop the leak.

- If necessary, replace the parts or components involved if the leak cannot be stopped.

- Ensure all gas leaks have been identified and repaired before proceeding.

9. A qualified service agency must check for proper operating gas pressure upon installation of the heater.

10. Always use pipe thread compound that is resistant to propane and natural gas.

11. Light according to instructions on heater or within owner's manual.

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12. Make sure the heater has the proper gas regulator for the application. A regulator must be connected to the gas supply so that gas pressure at the inlet to the gas valve is regulated within the range specified on the dataplate at all times. Contact your gas supplier, or the L.B. White Co., Inc. if you have any questions.
13. This heater is configured for use for propane gas vapor withdrawal only. Do not use the heater in an propane gas liquid withdrawal system or application. If you are in doubt, contact the L.B. White Co., Inc.
14. The heater must be installed so as not to interfere with or obstruct normal exits, emergency exits, doors and walkways.
15. Railing, fencing or suitable substitute materials must be used to keep the heating equipment from any people using and visiting the structure.
16. Eventually, like all electrical/mechanical devices, the thermostat can fail. Thermostat failure may result in an overheating condition. The thermostat should be tested to make sure it turns the heater on and off within a temperature differential of $\pm 3^{\circ}\text{F}$.
17. Take time to understand how to operate and maintain the heater by using this Owner's Manual. Make sure you know how to shut off the gas supply to the building and also to the individual heater. Contact your fuel gas supplier if you have any questions.
18. Any defects found in performing any of the service or maintenance procedures must be eliminated and defective parts replaced immediately. The heater must be retested by properly qualified service personnel before placing the heater back into use.

PROPANE GAS SUPPLY SIZING

The vaporization of propane is affected by several factors: the surface area of the container, the liquid level of the propane, temperature surrounding the container, and the relative humidity. All of these factors are specific to a site. Therefore, a degree of experience and judgement is required to select the proper propane supply. Although experience is the best guide, the following

Recommended Propane Gas Supply

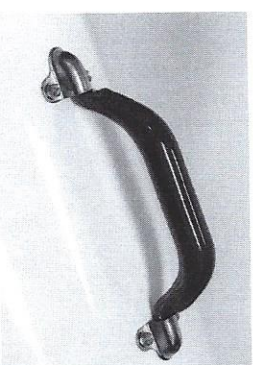
Average Temp °F	50	40	30	20	10	0	-10
Number of 100lb. Gas Cylinders to Use Per Heater	2	2	3	3	3	3	3

* Cylinders must be manifolded together to allow simultaneous vapor withdrawal from all cylinders.

HANDLE ASSEMBLY

Assemble handle to four holes at barrel top as shown in Fig. 1. Tighten screws securely.

FIG. 1



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HEIGHT ADJUSTMENT

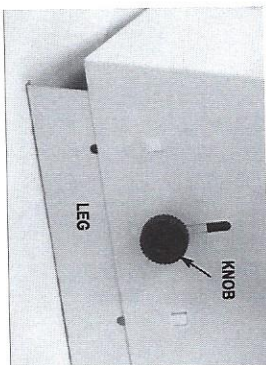
This heater includes a height adjustment feature, allowing the user to change the elevation of the heater for greater heat direction. See Fig. 6 for location of adjustment on front base of heater.

FIG. 6

- To adjust the heater's discharge outlet height:
- Loosen knob
 - Lift heater slightly at blower outlet end
 - Pull leg to desired setting
 - Tighten knob.

WARNING **Burn Hazard**

- Do not adjust height while heater is operating or hot.
- Adjust height only after the heater has been disconnected from its power supply and cool to touch.
- Failure to follow this warning will result in burns causing injury.



1. Connect the heater's electrical cord to an approved electrical outlet.
2. Open the gas supply valve. For LP heaters, this is located on the cylinder or tank.
3. Set thermostat on heater to a setting above room temperature. The heater will start and the burner will ignite.

- It is normal for air to be trapped in gas hose on new installations. You may need to recycle the heater before air is finally purged from the line and ignition takes place.
- 4. Do not exceed input rating provided on dataplate or manufacturer's recommended burner manifold pressure for size orifice used. Ensure that the primary air supply to heater is open and free of dust, dirt and debris for complete, proper combustion.

Start-Up Instructions

- If the heater is to be shut down for cleaning, maintenance, or repair, follow steps 1-4. Otherwise turn the thermostat to a lower setting.
1. Close the gas supply valve.
 2. Allow the heater to burn off any fuel gas remaining in the gas supply line.
 3. Set the thermostat to its lowest setting.
 4. Disconnect the heater from its gas and electrical supplies.

Shut-Down Instructions

This heater includes a variable rate valve for adjusting the heat output from low to high heat, or anywhere in-between. See Figs. 7.

FIG. 7

Variable Rate Valve

