

Safety Precautions

⚠ WARNING Asphyxiation Hazard

- Do not use this heater for heating human living quarters, garages, workshops, or other such confined spaces.
- 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.
- Proper ventilation air for combustion must be provided in accordance with OSHA 29 CFR 1926.154, Temporary Heating Devices, ANSI A10.10, Safety Requirements for Temporary and Portable Space Heating Devices, or the National Gas and Propane Installation Code, CAN/CSA B149.1 as appropriate.

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 fuel supply valves.
- 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 heater 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 and your local natural gas supplier (utility) 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 the 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 and natural gas have 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 and natural gas fueled heaters, then do not attempt to light the heater, perform service or repairs, or make any adjustments to the heater on a propane gas or natural gas fuel system.
- Even if you are not properly trained in the service and repair of radiant heaters, 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 small amount of gas, **CONTACT YOUR FUEL GAS SUPPLIER IMMEDIATELY. DO NOT WAIT!**

QUALIFICATIONS FOR SERVICING AND INSTALLATION:

1. 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.
2. To be a qualified gas heater service person, you must have been trained in gas-fired heater servicing, repair and also have sufficient experience to allow you to troubleshoot, replace defective parts, and test heaters in order to get them into a continuing safe and normal operation condition. You must completely familiarize yourself with each model heater by reading and complying with the safety instructions, labels, owner's manual, etc. that are provided with each heater.
3. 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 size to be used. This must be done in accordance with all local, state and national codes as well as the manufacturer's requirements.

⚠ WARNING ELECTRICAL GROUNDING INSTRUCTIONS

This heater is equipped with a three prong (grounding) plug for your protection against electrical shock hazard. It must be plugged into a properly grounded three prong receptacle. Failure to use a properly grounded receptacle can result in electrical shock or death.

2. All installations or applications of L. B. White Co., Inc.'s heaters shall meet the requirements of local, state and national L.P. gas and natural gas, electrical and safety codes. Your gas supplier, local licensed electrician, local fire department and government agencies can help you determine these requirements. In the absence of local codes, comply with the following:
 - a. Installations in the U.S.A.:
 - NFPA 102, standard for assembly seating, tents and membrane structures
 - ANSI/NFPA 58, latest edition, Standard for Storage and Handling of Liquefied Petroleum Gas and/or
 - ANSI Z223.1/NFPA 54, National Fuel Gas Code
 - ANSI/NFPA 70, National Electrical Code.
 - b. Installations in Canada:
 - CAN1-B149.1 or CAN1-B149.2 Installation Codes
 - CSA C22.1 Part 1 Standard Canadian Electrical Code, CSA C22.2 No.3, Electrical Features of Fuel Burning Equipment.
 3. We cannot anticipate every use which may be made of our heaters. Other standards govern the use of fuel gases and heat producing products in specific applications. Your local authority can advise you about these. Check with the local fire safety authority if you have questions about applications.
 4. Forced air heaters shall not be directed toward any propane gas container within 20 feet/6.10 meters.
 5. 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.

6. For safety, this heater is equipped with manual reset high limit switches, an air-proving switch, and a redundant gas control valve. Never operate the heater with any safety device that has been bypassed. Do not operate this heater unless all of these features are fully functioning.
7. Do not direct the heater toward any propane gas supply container or gas hose within 20 ft. (6m) of the heaters hot air discharge.
8. Do not block air intakes or discharge outlets of the heater. Doing so may cause improper combustion or damage to heater components leading to property damage.
9. 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 both during use and while in storage. The replacement hose assembly shall be that specified by the manufacturer. See parts list.
10. 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.
11. This heater should be inspected for proper operation by a qualified service person before each use and at least annually.
12. 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.
13. 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.
14. Minimum propane gas cylinder size to be used: 170,000 btuh heaters: (1) 100 lb/45 kg or (2) 40 lb./18 kg.; 80,000 btuh heaters: 40 lb./18 kg. Multiple cylinder installations require a manifold to ensure continuous supply of gas. The system must be arranged to provide vapor withdrawal from the operating cylinder.
15. 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/FPA 58 or Standard CSA B149.1 Natural Gas and Propane Installation Code as appropriate.
16. Propane gas supply containers have left handed threads. Use the manual hand wheel supplied with the regulator to make a connection of the regulator's P.O.L. fitting into the cylinder's gas supply valve.
17. Use pipe joint compound that is resistant to propane and natural gas.

General Installation Instructions

WARNING

Burn Hazard

Can cause property damage, severe injury or death.

1. To avoid dangerous accumulation of fuel gas, turn off gas supply at the appliance service valve before starting installation, and perform gas leak test after completion of installation.
2. Do not force the gas control knob. Use only your hand to turn the gas control knob. Never use any tools. If the knob will not operate by hand, the control should be replaced by a qualified service technician. Force or attempted repair may result in fire or explosion.

Unit Diffuser:

This accessory provides the necessary clearance to combustible materials and also spreads the heated air inside the tent. Local codes may require a 3.04 m separation between the tent and the heater. In this case the unit mounted diffuser shall not be used.

Unit Diffuser Part Numbers:
80,000 btuh heaters: 26349
170,000 btuh heaters: 26351

Duct Kit, 12 in./0.3 m. diameter x 12 ft/3.65 m. length:

This accessory provides for locating the heater 10 ft./3.04 meters away from the tent as required by some local codes.

Duct Kit Part Numbers: Gray 26346
White 26347 Clear 26348

End Diffuser:

This accessory is used with the 12 in./3 m. diameter x 12 ft./3.65 m. duct. It is placed under the tent edge and provides for spreading of the heated air inside the tent.

End Diffuser Part Number: 26350

DO NOT USE ANY OTHER DUCT-WORK, DUCTING, FIELD FABRICATED DUCTS, TARPS, STOVE PIPE, or any other means of making the connection between the heater and the inside of the tent.

5. When using the unit diffuser or end diffuser air distribution accessories, ensure the tent material is laid within the accessory's channel, and the tent material is firmly anchored to hold the tent material securely within the channel. See pages 16 and 17 for specifics when using these air distribution accessories.

6. The heater's gas pressure regulator (with pressure relief valve) must be protected from adverse weather conditions (rain, ice, snow) as well as from building materials (tar, concrete, plaster, etc.) which can affect safe operation and could result in property damage or injury.

7. Insure that all accessories that ship within the heater have been removed from inside the heater and installed.

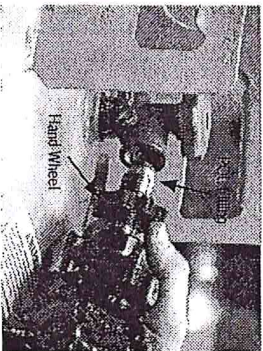
Connecting the Regulator to the Gas Supply

- Only use the L.B. White regulator supplied with the heater.
- Use pipe joint compound that is resistant to propane and natural gas at all threaded connections
- The heater must be regulated at all times for proper operation.
- Leak check all regulator connections after connecting to the gas supply.

Standard Premier Propane Gas Heaters (Models TS080/170)

1. Remove the cap from the POL fitting on the regulator. (Do not discard the cap)
2. Insert the POL stem into the cylinder valve. Push the spring loaded hand wheel up against the threaded nut. Turning counter clockwise, thread the POL nut into the container valve using the hand wheel. Firmly tighten. See Fig. 12.

FIG. 12



3. Slowly open the cylinder valve. This will prevent lock-up of the excess flow valve built within POL stem.
4. When storing or transporting the heater, use the protective cap to ensure the POL fitting is protected from damage and water entry.

Standard Premier Natural Gas Heaters (Models TS080/170)

- Use the regulator shipped with the natural gas heater if the supply pressure to the heater is above the maximum inlet pressure of 13.5 in. W.C./3.36 kPa, as stated on the heater's data plate and in this owner's manual.
- The natural gas regulator supplied with the heater requires a minimum 2 PSIG inlet pressure.
- Connect the natural gas regulator (part # 09795) to the natural gas supply line, using the proper connections.

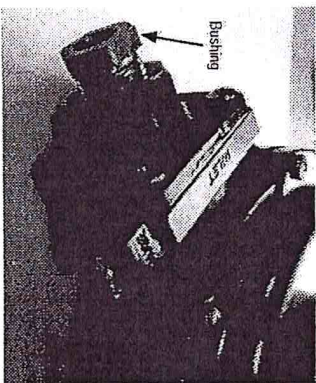
Dual Fuel Premier Heaters (Models CS080/CS170)

- The regulator provided with dual fuel heaters is suitable for both propane or natural gas
- Only use the L.B. White regulator supplied with the heater.
- Use pipe joint compound that is resistant to propane and natural gas at all threaded connections
- The heater must be regulated at all times for proper operation.
- Leak check all regulator connections after connecting to the gas supply.

When using propane gas as the fuel:

1. Thread the bushing into the regulator inlet. Tighten securely. See Fig. 13.

FIG. 13



2. Remove the plastic cap from the POL fitting. (POL fitting is located in hardware bag. Do not discard the cap)
3. Slide the spring over the POL stem. Smaller diameter end of spring is toward brass nut of POL. See Fig. 14. Slide the open side of the hand wheel over the POL stem. Thread the assembly into the 1/4 in. inlet of the bushing installed in the regulator. Tighten securely using a wrench at the flats of the POL stem. See Figs. 14 and 15.

FIG. 14

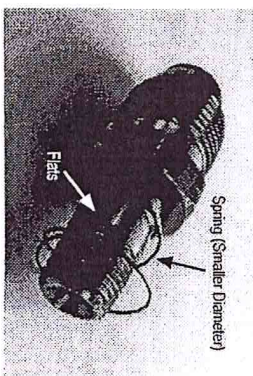
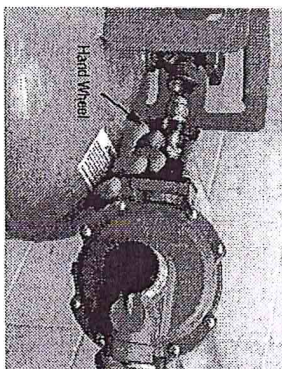


FIG. 15



4. Insert the POL stem into the cylinder valve. Push the spring loaded hand wheel up against the threaded nut. Turning counter clockwise, thread the POL nut into the container valve using the hand wheel. Firmly tighten. See Fig. 16.

FIG. 16



5. Slowly open the cylinder valve. This will prevent lock-up of the excess flow valve built within POL stem.

6. When storing or transporting the heater, use the protective cap to ensure the POL fitting is protected from damage and water entry.

When using natural gas as the fuel:

- The regulator supplied with the dual fuel heater is required for use with natural gas if the natural gas supply pressure to the heater is above the maximum inlet pressure of 13.5 in. W.C./3.36 kPa, as stated on the heater's data plate and in this owner's manual.

- The regulator requires a minimum natural gas supply pressure of 2 PSIG.

- Remove the POL fitting assembly with hand-wheel from the regulator inlet.

- Connect the regulator to the natural gas supply line using the proper connections.

Shut-Down Instructions

- b. Push the selector switch to heat.
See Fig. 17.

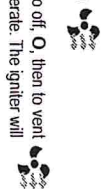
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FIG. 20



5. Disconnect the heater from its gas and electrical supplies.

Gas Selector Valve
Dual Fuel (DF) Heaters
Only



1. This feature allows the heater to operate on either propane or natural gas without changing out the burner orifice. The gas selector valve is located between the gas control valve and the burner. Gas selection is made by sliding the locking sleeve (if provided) up and repositioning the valve's handle. THIS IS NOT A MANUAL GAS SHUT OFF VALVE.

- [illegible]

2. Do not exceed input rating stamped on

- C. Off O

2. Do not exceed input rating stamped on nameplate or manufacturer's recommended burner orifice pressure for size orifice(s) used. Make certain that the primary air supply to main burner is open and free of dust, dirt and debris for complete, proper combustion.

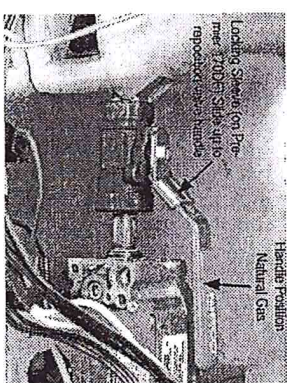
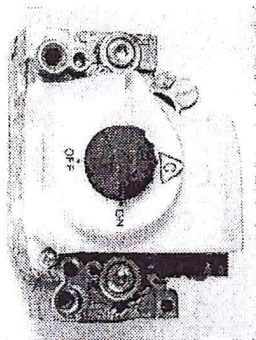


FIG. 19

Handling Position Natural Gas

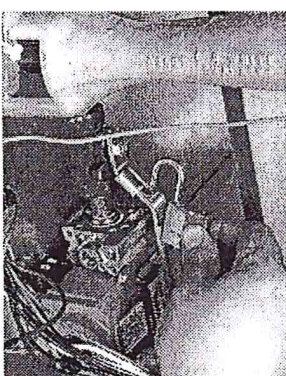


FIG. 21

- Do not operate the heater with the selector valve handle set between either position, otherwise improper operation will occur.