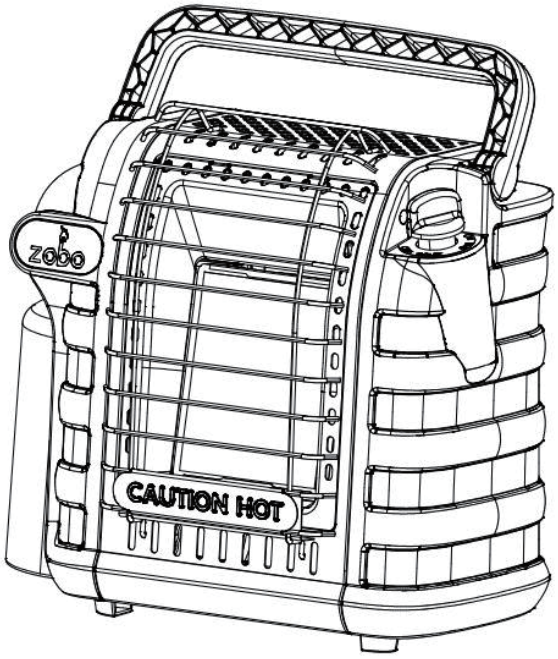
# OPERATING INSTRUCTIONS AND OWNERS MANUAL

**READ INSTRUCTIONS CAREFULLY:** YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS. Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light,adjust or operate the heater.

zobo

# PORTABLE RADIANT HEATER




## MODEL#: ZB-GB9

| WARNING | READ INSTRUCTIONS CAREFULLY: | FOR YOUR SAFETY |
|---|---|---|
| **If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.** | Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light,adjust or operate the heater. | If you smell gas:<br>1. Do not attempt to light appliance.<br>2.Extinguish any open flames.<br>3.Disconnect from fuel supply.<br><br>**FOR YOUR SAFETY**<br>Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. |

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

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# PRODUCT INTRODUCTION

Thank you for choosing ZOBO device.With years of experience, comprehensive product development and innovation, ZOBO has become one of the most reliable partners for professional heating appliance users. ZB-GB9 portable radiation heater is a newly designed heater for heating, based on market research and customer needs. This heater is a safe, lightweight, and practical mobile heating gas appliance . It can be used anytime and anywhere without relying on auxiliary equipment such as power sources and generators, and will definitely be recognized and praised by outdoor camping users .This heater uses a small liquefied gas tank as the combustion medium. The liquefied gas is mixed with oxygen in the air through a pressure reducing valve, gas switch, and injection pipe. The mixed gas is ignited by the ODS ignition system through the furnace head and porous ceramic plate, thereby generating combustion heating purposes.


Manufacturer: ZHEJIANG ZOBO TECHNOLOGY CO.,LTD

Add:No.16-2. Xita San Road, Chengxi Industry Zone,Yongkang,Zhejiang,China


Series # :

## ⚠WARNING:

Early signs of carbon monoxide poisoning resemble the flu, with headache, dizziness and/ or nausea. If you have these signs, heater may not be working properly. Get fresh air at once! Have heater serviced.

## ⚠WARNING:

Every time hose or tank is connected to unit, connection must be checked for leaks in one or more ways: Apply soapy water to connection, look for bubbles, listen for hiss of escaping gas, feel for extreme cold, smell for rotten egg odor. Do not use if leaking!

## CAUTION:

When operating the heater at altitudes over 7,000 FT above sea level the heater may shut off. (Please read the GENERAL INFORMATION).

## ⚠WARNING:

If the recreational enclosure does not have a window or roof vent, DO NOT USE THIS HEATER INSIDE.

## ⚠WARNING:

Fuels used in liquefied propane gas appliances, and the products of combustion of such fuel, can expose you to chemicals including benzene, which is known to the state of California to cause cancer and cause birth defects or other reproductive harm, for more information go to www.P65Warnings.ca.gov

## ⚠WARNING:

Any changes to this heater or its controls can be dangerous.

## ⚠WARNING:

**CARBON MONOXIDE POISONING MAY CAUSE DEATH OR INJURY**

**When used without adequate combustion and ventilation air, heater may give off excessive CARBON MONOXIDE, an odorless, poisonous gas.**

**This is an unvented gas-fired heater. The heater uses air (oxygen) from the area in which the heater is used. Adequate combustion and ventilation air must be provided. Refer to GENERAL SAFETY INSTRUCTIONS for more specific requirements regarding adequate combustion and ventilation air (page 3).**

## ⚠WARNING:

**FIRE OR EXPLOSION HAZARD**

**If you smell gas:**

1. **Do not attempt to light appliance.**
2. **Extinguish any open flame.**
3. **Disconnect fuel supply.**
4. **Leave the area immediately.**
5. **Allow gas to dissipate 5 minutes before relighting the appliance.**

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

**Failure to follow these instructions could result in fire or explosion, which could cause property damage, personal injury, or death.**

## ⚠WARNING:

**FIRE OR EXPLOSION HAZARD**

**If you smell gas:**

1. **Do not attempt to light appliance and make sure appliance is in the "OFF" position.**
2. **Extinguish any nearby flames.**
3. **Shut off the cylinder fule supply valve,if so equipped.**
4. **Disconnect the disposable fuel cylinder, if so equipped.**
5. **Leave the area immediately.**
6. **Allow gas to dissipate for 5 minutes.**
7. **If gas smell has dissipated from the area,the appliance, and fuel supply, follow gas connection procedures. if you smell gas again, follow step 1-6 and have appliance serviced.**

**Failure to follow these instructions may result in fire or explosion which could cause property damage, personal injury or death.**

**WARNING: Improper installation,adjustment,alteration, service or maintenance can casuse injury or property damage, Refer to this manual. For assistance or additional information,consult a qualified installer.service agency or the gas supplier .**

This heater is equipped with a SAFETY SYSTEM designed to turn off the heater if not enough fresh air is available.

## ⚠WARNING:

**DO NOT TAMPER WITH THE SAFETY SYSTEM!**

If heater shuts off, do not relight until you provide fresh air. If heater keeps shutting off, have the heater serviced. Keep burner and control compartment clean.

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

# GENERAL SAFETY INSTRUCTIONS

## DO NOT OPERATE THIS APPLIANCE WITHOUT THE FRONT GRILL INSTALLED.

**⚠WARNINGS: THIS IS A HEATING APPLIANCE.**
**DO NOT ATTEMPT TO WARM OR COOK FOOD.**

• Do not use non-approved attachments on this heater.
• Due to high temperatures, the appliance should be located out of traffic and away from combustible materials.
• Children and adults should be alerted to the hazard of high surface temperatures and should stay away to avoid burns or clothing ignition.
• Do not leave this heater unattended while it is in operation. Keep children and pets away from the heater at all time.
• Do not place clothing or other flammable material on or near the appliance.
• Do not operate heater in any moving vehicle.
• Only disposable cylinders marked with the proper fuel type approved for the appliance, can be used.
• This heater can be used in a recreational enclosure only if the enclosure has a window or roof vent. It may also be used outdoors.
• This heater requires a minimum vent area of 9 square inches, (example3'' x 3''opening) at the ceiling and at floor level for adequate ventilation during operation. Do not use other fuel burning appliances inside.
• GAS PRESSURE AT HEATER IS REGULATED AND FIXED AT 11''W.C. WHEN USING A REMOTE HOSE CONNECTION DO NOT REGULATE OR REDUCE PROPANE TANK SUPPLY PRESSURE TO HEATER!
• REGULATOR IN HEATER MUST ALWAYS BE IN PLACE DURING OPERATION
• If the wire guard is removed for servicing, it must be replaced prior to operating the heater.
• The appliance should be inspected before each use. Frequent cleaning may be required. The control compartments, burner and circulating air passageways of the appliance must be kept clean, see MAINTENANCE.
• A propane-fired portable heater used for emergency home use shall not be set at an input rating in excess of 4,000 Btu/hr (1,400 W) when located in a bathroom and shall not be set at an input rating of more than 9,000 Btu/Hr (2,600 W) when located in a bedroom.Refer to Specifications table for permissible settings.
• DO NOT use this heater if any part has been under water. Immediately call a qualified service technician to inspect the heater and to replace any part of the control system and any gas control, which has been under water.
• When used without adequate combustion and ventilation air, this heater may give off excessive CARBON MONOXIDE, an odorless, poisonous gas.

**WARNING:** Early signs of carbon monoxide poisoning resemble the flu, with headache, dizziness, and/or nausea. If you have these signs, the heater may not be working properly. Get fresh air at once! Have heater serviced.
Some people - pregnant women, persons with heart or lung disease, anemia, those under the influence of alcohol, those at high altitudes - are more affected by carbon monoxide than others.
• When heater is placed on the ground, make sure the ground is level and keep any objects at least 24 inches from the front of the heater. THIS HEATER IS EQUIPPED WITH A TIP OVER SWITCH THAT WILL SHUT THE HEATER OFF IF THE HEATER TIPS OVER HOWEVER, DO NOT LEAVE HEATER UNATTENDED OR WHERE CHILDREN MAY CAUSE THE HEATER TO TIP OVER. NEVER OPERATE THE HEATER WHILE SLEEPING!

## ODOR FADE WARNING

**⚠WARNING: ASPHYXIATION HAZARD**

• 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.
• Refer to the specification section of the heater's manual, heater dataplate, or contact the factory to determine combustion air ventilation requirements of the heater.
• 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. Since propane / gas is heavier than air you should smell for the gas odor low to the floor. ANY GAS ODOR IS YOUR SIGNAL TO GO INTO IMMEDIATE ACTION!**

## NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

• 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 (LP) gas tank or cylinder fuel supply valves, or the main fuel supply valve located at the meter if you use natural gas.

• Propane (LP) gas is heavier than air and may settle in low areas. When you have reason to suspect a propane (LP) gas 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 any leaks, 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 (LP) gas. You must determine if you can smell the odorant in these fuel gases.

• Learn to recognize the odor of propane (LP) gas. Local propane (LP) 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. Odors present in animal confinement buildings can mask fuel gas odor.

**• The odorant in propane (LP) 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 (LP) gas odor may differ in intensity at different levels. Since propane (LP) 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 (LP) gas has a distinctive odor. Learn to recognize these odors. (Reference Fuel Gas Odor and Odor Fading sections above.

• Even If you are not property trained in the service and repair of the heater, ALWAYS be consciously aware of the odors of propane (LP) gas.

• If you have not been properly trained in repair and service of propane (LP) gas then do not attempt to light heater, perform service or repairs, or make any adjustments to the heater on the propane (LP) gas fuel system.

• 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!

| **Specifications** | | **Clearance To Combustibles** | | **Permissible Settings** | |
|---|---|---|---|---|---|
| Model No. | ZB-GB9 | Top | 30" | Bathroom Use | "LO" Only |
| Input (Btu/Hr) | 4000-9000 | Front | 24" | | |
| Gas Type | Propane (LP) | Side | 6" | Bedroom Use | "HI" or "LO" |
| Min Ambient Temp | -18℃/0˚F | Rear | 0" | | |

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

# GENERAL INFORMATION

• This heater is safe for indoor use in small recreational enclosures having means for providing combustion air and ventilation, such as enclosed porches, cabins, fishing huts, trailers, tent trailers, tents, truck caps and vans. It may be used for emergency indoor heating when connected to a disposable 1lb. propane cylinder.

**Note:** The heater is to be used outdoors, but may experience nuisance shutoffs due to certain wind conditions.

• When the heater is cold or at room temperature, it will take a few minutes for the burner tile to turn bright orange. This is normal and the heater is working properly. If burner tile is visibly flaming, turn heater off and call a qualified service technician.

• When the unit is lit, there should be about a quarter inch(1/4'') border around the tile that will not turn bright orange. This is normal.

• When operating the heater for the first time, the top area of the reflector may discolor. This is also normal and is no reason for concern.

• The protective grill on the front of this heater is coated with a special high temperature resistant paint. When the heater is used for the first time, the grill may give off noticeable smoke or fumes. This is normal and will not occur during subsequent uses. The fumes are not harmful.

**• When operating the heater at altitudes over 7,000 FT. above sea level, the unit may not burn as bright as in lower altitudes. This is normal. At higher altitudes, the heater may shut-off. If this happens, provide fresh air, wait 5 minutes and re-light. Due to local atmospheric conditions heater may not relight.**

• Operating time will be approximately 3 to 6 hours on a one 1lb cylinder and 48 to 110 hours on a 20lb cylinder (based on "HI" and "LO" settings). Due to the properties of LP gas, runtimes can be significantly reduced when operating continuously at temperatures below 20ºF. Use of a 20lb. tank is recommended in these conditions.

• When moving heater when lit or bumping heater setting it down, the tip over switch may shut off heater. If this happens, re-light.

• Due to natural operation of small tanks, condensation may build up on tank and drip on surface under heater.

# OPERATION

**LIGHTING / OPERATING INSTRUCTIONS FOR USE WITH DISPOSABLE 1LB. PROPANE CYLINDERS:**

ALWAYS ATTACH OR DETACH CYLINDER OUTDOORS AWAY FROM FLAMES, OTHER IGNITION SOURCES, AND ONLY WHEN HEATER IS COOL TO TOUCH. NEVER SMOKE WHEN ATTACHING OR REMOVING PROPANE CYLINDER OR MAKING REMOTE CONNECTIONS!

• The LP-gas cylinder used must be constructed and marked in accordance with the specifications for LP-gas cylinders of the Europe Department of transportation (DOT).

• Use only VAPOR WITHDRAWAL propane supply. If there is any question about vapor withdrawal, ask your propane dealer.

• Use only 16.4 oz. (1lb.) disposable cylinders that mate with correct valve connection.

• This heater consumes oxygen from the room in which it is installed. To assure complete combustion, an adequate fresh air supply to the room, See **General Safety Instructions** .

• Heater and attached cylinder must be in an upright position during operation.

**IMPORTANT:** The heater must not be exposed to flammable vapors or liquids during lighting.

1. Make sure four-position Control Knob is in "OFF" position. See Figure 1.
2. Swivel regulator outward for easy tank installation. Screw 1lb. disposable LP-gas supply cylinder clockwise (from bottom) into portable heater until hand-tight. See Figure 2. Do not use thread sealant on this connection.
3. Check cylinder connection for leaks with soapy water at the threaded connection under the domed plastic cover where the cylinder screws into the regulator. DO NOT USE ANY EXPOSED FLAME TO CHECK FOR LEAKS. DO NOT OVERTIGHTEN. SEE WARNING! ON DOMED PLASTIC COVER.
4. Turn Control Knob counterclockwise to "PILOT" position and depress to light. See Figure 3.
5. If heater does not light, hold down for approximately 30 seconds; release and depress again. Repeat until pilot lights.
6. After pilot lights, hold down for 30 -60 seconds and then release knob. Knob should return to fully extended position. See Figure 4.
7. To operate heater slightly depress knob and gently turn to lock in the "HI" position to light burner tile. Leave on "HI"position until burner tile turns bright orange.

8. After burner tile has turned bright orange, adjust heat output by turning Control Knob to desired position (“LO” or “HI” setting).

**Shutdown Instructions**

1. To shut off heater, slightly push down and turn Control Knob clockwise to “OFF” position.

• Do not operate, store or remove cylinder near flammable items or ignition sources.

LP-GAS CYLINDERS MUST BE DISCONNECTED FROM HEATER WHEN NOT IN USE!

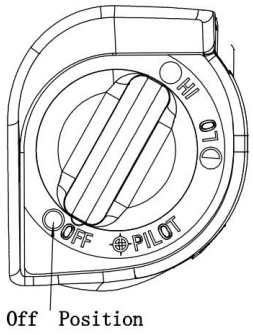



Figure 1

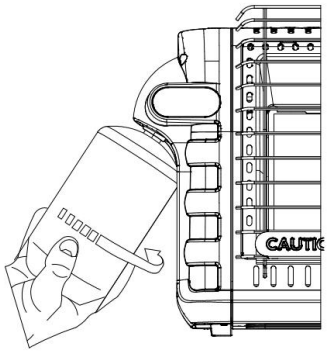


Figure 2



Figure 3

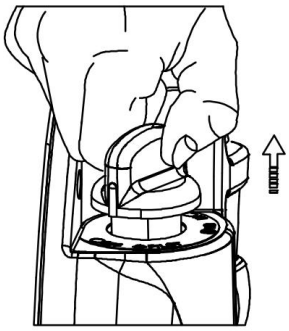


Figure 4

**LIGHTING / OPERATING INSTRUCTIONS FOR USE WITH HOSE CONNECTED TO A REMOTE CYLINDER, MAXIMUM SIZE 20LBS:**

• This Heater may be used in a recreational enclosure with a remote refillable propane cylinder ONLY when the cylinder is located outdoors and the Heater is used with Hose and fuel filter . Fuel filter must be replaced annually. (**NOTE**: Do not operate without the fuel filter as fuel contamination may damage the heater.)

• Inspect the hose before each use of the heater. If there is excessive abrasion or wear, or the hose is cut, replace prior to using the heater with hose .

• The LP-gas cylinders used must be constructed and marked in accordance with the specifications for LP-gas cylinders of the Europe Department of Transportation (DOT).

• Use only VAPOR WITHDRAWAL propane supply. If there is any question about vapor withdrawal, ask your propane dealer.

• The propane cylinder must include a listed overfilling protection device as well as a collar to protect the cylinder valve.

• This heater consumes oxygen from the room in which it is installed. To assure complete combustion, an adequate fresh air supply to the room, See **General Safety Instructions**, Page 4-5.

• Heater must be in an upright position during operation.

**IMPORTANT:** The heater must not be exposed to flammable vapors or liquids during lighting.

1. Make sure four-position Control Knob is in “OFF” position. See Figure 1 on previous page.

2. Swivel regulator outward for easy hose installation. Screw hose connector into regulator on heater and screw connector on other end of hose into LP-gas supply cylinder valve. Tighten all hose connections. DO NOT use thread sealant on any of these connections.

3. ZOBO strongly recommends using disposable fuel filter to trap any oil substances when connected to a remote cylinder that can make heater inoperable.

4. Open valve at LP-gas supply cylinder.

5. Check all hose connections for leaks with soapy water at the threaded connection under the domed plastic cover where the hose connector screws into the regulator and at LP-gas supply cylinder. DO NOT USE ANY EXPOSED FLAME TO CHECK FOR LEAKS. DO NOT OVERTIGHTEN. SEE WARNING! ON DOMED PLASTIC COVER.

6. Turn Control Knob counterclockwise to “PILOT” position and depress to light. See Figure 3 on previous page. This may take longer to purge air from the supply hose depending on the length of the hose being used.

7. If pilot does not light, hold down for approximately 30 seconds; release and depress again. Repeat until pilot lights.

8. After pilot lights, hold down for 30 -60 seconds and then release knob. Knob should return to fully extended position. See Figure 4 on previous page. The pilot should remain lit.

9. To operate heater slightly depress knob and gently turn to lock in the “HI” position to light burner tile. Leave on “HI” position until burner tile turns bright orange.

10.After burner tile has turned bright orange, adjust heat output by turning Control Knob to desired position (“LO” or “HI”setting).

**Shutdown Instructions**

1. To shut off heater, shut off propane at supply tank, allow heater to use-up propane in supply line until heater shuts off, then slightly push down and turn Control Knob clockwise to “OFF” position.

• When not in use, the gas must be turned off at the LP-gas supply cylinder. As stated before allow heater to use up propane in supply line until heater shuts off. When the LP-gas supply cylinder is not disconnected from the heater, the heater and the cylinder must be stored outdoors, in a well ventilated space, out of reach of children, and must not be stored in a building, garage or any other enclosed area.

• Indoor storage of the heater is permissible only if the cylinder is disconnected and removed from the heater. Cylinders must be stored outdoors out of the reach of children and must not be stored in a building, garage or any other enclosed area.

# Maintenance

- Always keep the heater area clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- Keep the vent areas (slots in the bottom and top of the heater) clear at all times.

**IMPORTANT:** The heater and its surroundings should be kept clean and free of dust.

- Visually inspect the pilot flame and burner periodically during use. The pilot flame should be blue in color (not yellow) and will extend to the thermocouple. The flame will surround the thermocouple just below the tip. See Figure 5.
- A slight yellow flame may occur where the pilot flame and main burner flame meet. The burner should be bright orange (with a slight blue color around the border, a red-orange haze that is visible on the ceramic tile is acceptable) and without a noticeable flame.
- A blue flame that rolls out at the top of the ceramic tile indicates an accumulation of dust, lint or spider webs inside the housing assembly and main burner assembly. If the pilot is yellow or the burner has a noticeable flame, cleaning may be required.
- It is necessary to periodically check the burner orifice and burner venturi to make sure that they are clear of things such as insect nests and spider webs that may accumulate over time. A clogged tube can lead to a fire.
- Use the following procedure to inspect the casing assembly and main burner assembly.

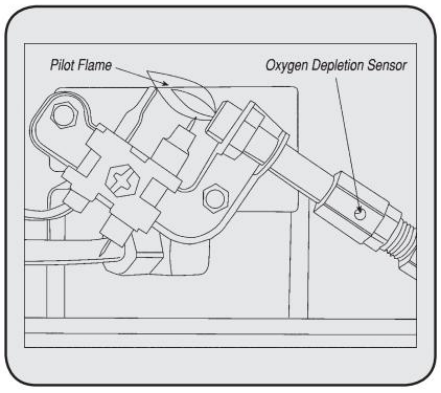



Figure 5

## OFFSEASON

- If the heater is to left “OFF” for a considerable period of time, the propane (LP) gas supply to the heater should be turned off as close to the gas source as possible. In the case of portable use, the gas should be turned off at the propane (LP) gas supply cylinder.
- If the heater is put into storage, make sure to disconnect the propane (LP) gas cylinder.
- When the LP-gas cylinder is not disconnected from the heater, the heater and cylinder must be located outdoors, in a well-ventilated space, out of the reach of children, and must not be stored in a building, garage, or any other enclosed area.
- Storage of the heater indoors is permissible only if the cylinder is disconnected and removed from the heater. Cylinders must be stored outdoors, in a well-ventilated space, out of the reach of children, and must not be stored in a building, garage, or any other enclosed area.

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

## Cleaning Instructions：

**IMPORTANT:** Allow heater to thoroughly cool before performing any maintenance.

1. Remove disposable 1 lb. cylinder from heater or turn OFF gas supply at remote cylinder valve, and disconnect hose from heater.
2. Remove (4) four screws that secure the rear cover to the heater.
3. Pivot cover outward from bottom. Release from 2 top clips. Set aside.
4. Remove (4) four burner retaining screws and fuel line from burner assembly. Remove burner assembly from back of housing.
5. Inspect interior of housing for accumulation of dust, lint or spider webs. If necessary, clean interior housing with a vacuum cleaner or apply air pressure. Do not damage any components within the housing assembly when you are cleaning.
6. Inspect and clean main burner orifice (threaded into orifice holder). Orifice holder is attached to the burner assembly venturi with (2) two screws.
7. Inspect and clean pilot (mounted to bracket) by using a vacuum or apply air pressure through the holes in the pilot indicated by the arrows in Figure 5.
8. Apply air pressure (max. 30 psi.) into ceramic tile of burner assembly and the venturi tube to remove dust, lint or spider webs.
9. Reassemble main burner orifice holder onto the burner assembly.
10. Reinstall burner assembly into the heater housing.
11. Reinstall fuel line and check for leaks.
12. Install heater back cover.
13. The exterior of the heater can be cleaned with a damp cloth. Avoid the direct use of any aerosol or spray-on cleaners. Do not use abrasive materials or cleaners on the decals or control knob.

⚠**WARNINGS:** Never use needles, wires or similar cylindrical objects to clean the pilot to avoid damaging the calibrated ruby that controls the gas flow through the pilot orifice.

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

# TROUBLESHOOTING

**• For additional assistance or information, please call Technical services.**

| SYMPTOM | CAUSE | REMEDY |
|---|---|---|
| **• Spark electrode does not produce spark.** | 1. Spark electrode broken. | 1. Replace ODS (Oxygen Depletion Sensor). |
| | 2.Igniter wire may not be attached to spark electrode.ground wire may not be attached to frame. | 2.Attach igniter wire or ground wire. |
| | 3. Igniter wire damaged. | 3.Replace igniter wire. |
| | 4.Piezo igniter is defective. | 4.Replace gas valve assembly |
| **• Spark electrode produces spark but pilot does not light.** | 1. No gas to heater. | 1. Install disposable cylinder or connect hose and filter where required and turn on valve at remote cylinder. |
| | 2.“PILOT” position not properly aligned. | 2.Turn gas control knob to “PILOT” position and depress. |
| | 3.Pilot is blocked with foreign debris. | 3.Clean pilot. See MAINTENANCE section. |
| **• Pilot flame does not stay lit when knob is released.** | 1. Improper pilot lighting. | 1. Make sure that the control knob is completely depressed in the “PILOT” position and held long enough to purge air from lines. |
| | 2.Pilot flame not surrounding thermocouple. | 2.Clean pilot, see MAINTENANCE. |
| | 3.Pilot Assembly is defective. | 3.Replace Pilot Assembly. |
| | 4.Tip switch wires are disconnected. | 4.Connect tip switch wires. |
| **• Main burner does not ignite.** | 1. Main burner orfice is blocked. | 1. Clean burner - see Maintenance. |
| **• Heater keeps shutting “OFF” during normal operation.** | 1. Pilot is blocked. | 1. Clean pilot. See MAINTENANCE section. |
| | 2.Inadequate fresh air opening. | 2.Provide minimum fresh air opening of 9 square inches, (example 3’’ x 3’’opening). |
| | 3.Tip over switch activated from bumping heater. | 3.Re-light. |
| | 4.Regulator defective. | 4.Replace regulator. |
| | 5.Internal contamination. | 5.Replace control valve and regulator. |

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

# WARRANTY

**READ INSTRUCTIONS CAREFULLY:** Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.

**⚠WARNING:**

WARNING:Always inspect propane cylinder and heater propane connections for damage, dirt, and debris before attaching propane cylinder. Do not use if head of cylinder is damaged, punctured or deteriorated.

WARNING: Do not operate heater unless control knob is locked in a position marked "hi", "lo" or "pilot". Never set control knob between locked positions. Poor combustion and higher levels of carbon monoxide may result.

CAUTION: Do not try to adjust heating levles by using the propane tank shut off valve.

**⚠WARNING:**

THIS PRODUCT IS A HEATER. IT IS CERTIFIED TO ANSI INTERNATIONAL REQUIREMENT SECTION Z21.103-2017, “UNVENTED PORTABLE TYPE GAS CAMP HEATERS FOR INDOOR AND OUTDOOR USE”. THIS PRODUCT IS NEVER TO BE USED FOR THE COOKING OR WARMING OF FOODS AS DOING SO CAN INTERFERE WITH THE SAFETY SYSTEMS OF THE HEATER, WHICH MAY RESULT IN A FIRE, EXPLOSION, THE PRODUCTION OF DEADLY CARBON MONOXIDE, AND PERSONAL INJURY OR DEATH TO YOU OR OTHERS. NEVER USE HAND-MADE OR THIRD PARTY ACCESSORIES OR ATTACHMENTS WITH THIS HEATER; THIS IS EXTREMELY DANGEROUS AND MAY RESULT IN PERSONAL INJURY OR DEATH TO YOU OR OTHERS.

ZOBO warrants its heaters and accessories to be free from defects in material and workmanship for a period of 1 year from date of purchase. ZOBO will repair or replace this product free of charge if it has been proven to be defective within the 1-year period, and is returned at customer expense with proof of purchase to ZOBO within the warranty period. DISCLAIMER: This warranty does not cover any product that: a) has been subject to misuse or neglect; b) has been used in a manner inconsistent with the warnings and instructions contained in the owner’s manual, including but not limited to using a heater for the cooking or warming of foods; or c) has been used with hand-made or third party accessories or attachments.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

ZOBO reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

**PARTS ORDERING INFORMATION PURCHASING:**

Accessories may be purchased at any local dealer or direct from the factory

**FOR INFORMATION REGARDING SERVICE**

Please call 0086-57989025299 Or visit www.cnzobo.com

Please include the model number,date of purchase,and description of problem in all communication.