



## USER'S MANUAL AND OPERATING INSTRUCTIONS

# RADIANT PROPANE TANK TOP HEATER

### MODELS:

ZBTT15  
Single Burner

ZBTT30  
Double Burner



ZBTT15  
Single Burner

ZBTT30  
Double Burner



### GENERAL HAZARD WARNING

Failure to comply with the precautions and instructions provided with this heater, can result in death, serious bodily injury and property loss, or damage from the hazards of fire, explosion, burn. Asphyxiation, carbon monoxide poisoning, and/or electrical shock.

Only persons who can understand and follow the instructions should use or service this heater.

If you need assistance or heater information such as an instruction manual, labels, etcetera, contact the manufacturer.


**CONSUMER: Retain this manual for future reference.**



ANSI Z83.7 / CSA 2.14-2011

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 **WARNING!** FIRE, BURN, INHALATION, AND EXPLOSION HAZARD, KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO, OR MAY, CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNERS, DUST PARTICLES OR UNKNOWN CHEMICALS.

**CALIFORNIA PROPOSITION 65 WARNING:** This fuel, and byproducts or combustion of this fuel, contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. This product contains chemicals, including lead and lead compounds, a chemical known to the state of California to cause birth defects or other reproductive harm. Wash hands after handling.

 **WARNING!**  
**NOT FOR PERSONAL, HOUSEHOLD  
OR RECREATIONAL VEHICLE USE.**

# RADIANT PROPANE TANK TOP HEATER

## RADIANT TANK TOP PROPANE HEATER

This heater is designed and approved for use as a temporary construction heater. It is in compliance with standards ANSI Z83.7 and CSA 2.14 -2011.

It is impossible to anticipate every use which may be made of this heater. CHECK WITH YOUR LOCAL FIRE SAFETY AUTHORITY IF YOU HAVE QUESTIONS ABOUT APPLICATIONS OR LOCAL CODES.

Other standards govern the use of fuel gases and heat producing products in specific applications. Check with your local authority regarding such standards.

**IMPORTANT:** Read this user's manual carefully and completely before trying to operate or service this heater. Improper use of this heater can cause serious injury or death from fire, explosion and/or carbon monoxide poisoning.

This is a direct-fired tank top heater for indoor use in properly ventilated areas or for use outdoors. All the products of combustion generated by the heater are forced through the heater and released into the area being heated. This heater produces a small amount of carbon monoxide when operating. Carbon monoxide can build up in a heated space and failure to provide adequate ventilation could result in poisoning or death. Proper ventilation must be provided

## SPECIFICATIONS

MODEL	BTU OUTPUT	IGNITION TYPE	OPERATING TIME (20 lb. tank)	WEIGHT	
				PRODUCT	PACKAGED
ZBTT15	15,000	Match	up to 28 Hrs. (high)	2.678 lbs / 1.215 kg	3.520 lbs / 1.597 kg
ZBTT30	30,000	Match	up to 14 Hrs. (high)	5.335 lbs / 2.420 kg	6.450 lbs / 2.926 kg



# RADIANT PROPANE TANK TOP HEATER

## GENERAL SAFETY INSTRUCTIONS

Accidents are always tragic especially because so many of them could have been prevented with little care and judgment. There are some basic good practices, you should follow for safe use of your heater.

## IMPORTANT SAFETY INFORMATION

- Children should be carefully supervised if/when they are in the area.
- Always maintain proper clearance from combustible materials. Minimum clearance from combustibles; side & rear: 36" (91 cm); top: 36" (91 cm); front: 60" (152 cm); floor: 0" when installed on 20lb. propane (LP) tank.
- Do not use on finished floors of any type.
- Heater must be placed on level and stable surface.
- Do not operate the heater without safety burner guards in place.
- Never place anything including clothes or other flammable items on the heater.
- The appliance area must be kept clear and free from combustible materials, gasoline and other flammable liquids.
- Do not modify or operate a heater which has been modified.
- Adequate clearance for accessibility and for combustion & ventilation air supply must be maintained at all times when the heater is operating.
- Service and repair should be done by a qualified service person. The heater should be inspected before each use and at least annually by a qualified person. More frequent cleaning may be required as necessary. Do not service while hot or operating.
- Never connect heater to an unregulated gas supply.
- This heater is for use with propane (LP) gas only, do not convert heater to any other gas. Installation must conform to local codes or, in the absence of local codes, with the standard for the Storage and Handling of Liquefied Petroleum Gases ANSI/NFPA NFPA 58 and the Natural Gas and Propane Installation Code CSA B149.1.
- The minimum and maximum inlet pressures to the regulator from the gas tank are 17.5 psi (120.7 kPa) and bottle pressure, respectively. Use only the regulator & hose assembly provided with the heater. Inspect the regulator/hose assembly prior to each use of the heater. If there is excessive abrasion or wear or hose is cut, replace with identical regulator/hose assembly prior to using this heater.
- Gas supply connections should be checked using a 50/50 solution of liquid dish soap and water. The formation of bubbles indicate a gas leak. Correct all leaks before using the heater. Never use a flame to check for gas leaks.
- The flow of combustion and ventilation air must not be obstructed.
- This heater should not be directed toward any propane (LP) or gas container within 20 ft. (6.1 m) of the exit nozzle. The heater should also be located at least 6 ft. (1.83 m) away from any propane (LP) gas container (For use in Canada: heater should be located at least 10 ft. (3.05 m) from any propane (LP) gas container).
- The propane (LP) tank supply system must be arranged to provide for vapor withdrawal from the operating tank.

# RADIANT PROPANE TANK TOP HEATER

## PRODUCT FEATURES

- Portable & Stable
- Wind Resistant & Rain Protected
- Safety Shutoff System
- Match Ignition

## HEATER ASSEMBLY

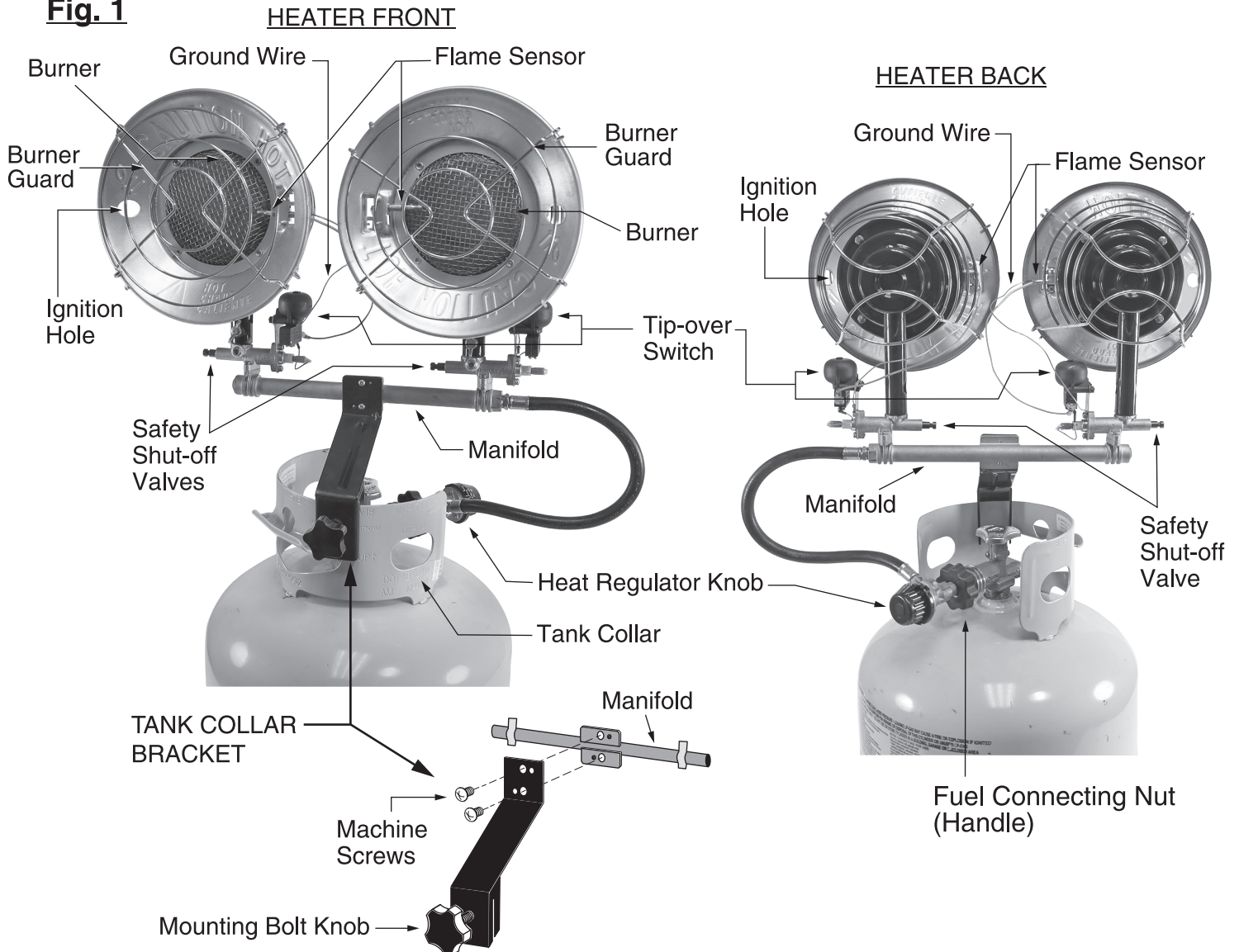
**Tools Required:** Phillips head screwdriver

### FOR DUAL BURNER MODEL # ZBTT30 ONLY

The tank collar bracket must be assembled before the heaters can be attached to the propane tank.

1. Align bolt holes in tank collar bracket with bolt holes in center plate on manifold.
2. Drive-in two machine screws (supplied) into the bolt holes attaching tank collar bracket to center plate on manifold using phillips head screwdriver. (Fig. 1)

**Fig. 1**



**DUAL BURNER MODEL # ZBTT30**

# RADIANT PROPANE TANK TOP HEATER

## **PROPANE SAFETY**

This heater requires a 20 lb. propane (LP) tank for operation (not included).

Use of this heater with any other propane (LP) tank is not recommended and can be dangerous.

### **The propane (LP) gas tank must also be equipped with the following:**

- A collar to protect the propane (LP) gas valve.
- A shutoff valve terminating a propane (LP) gas tank valve outlet as specified in the American National Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections.
- A safety relief valve having direct communications with the vapor space of the tank.
- An arrangement of vapor withdrawal.

### **The propane (LP) gas pressure regulator and hose assembly of 30K BTU models supplied with the heater must be used without alteration.**

The hose assembly must be visually inspected prior to each use of the heater. If it is evident that there is excessive abrasion, wear or the hose is cut, it must be replaced prior to the heater being put into operation. Contact ZOBO® customer service for part availability.



### **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 as listed in this manual.
- Refer to the specification section of the heater's manual or heater dataplate 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 headache, dizziness, burning eyes and nose, nausea, dry mouth or sore throat and difficulty in breathing.

### **Propane (LP) Fuel Gas Odor.**

Propane (LP) gas and natural gas have man-made odorants added specifically for detection of fuel gas leaks. It can be described as a "rotten egg" smell. If a gas leak occurs you should be able to smell the fuel gas. Since propane (LP) is heavier than air you should smell for the gas odor low to the floor.

### **Any Gas Odor Or Smell Is Your Signal Start 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 (LP) gas tanks.
- Propane (LP) 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.
- While outside the building call your fuel gas supplier and your fire department. Do not re-enter the building or area in question.
- Stay out of the building and away from the area until declared safe by the firefighters and your fuel gas supplier.
- Be sure to have 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 have them relight the appliance for you.

# RADIANT PROPANE TANK TOP HEATER

## PROPANE SAFETY (CONTINUED)

### Propane (LP) Odor Fading - No Odor Detected

- Some people have difficulty with smells and cannot smell the odor of the man-made chemical added to propane (LP) or natural gas. You must determine if you can smell the odorant in these fuel gases.
- Learn to recognize the odor of propane (LP) gas and natural gas. It can be described as a “rotten egg” smell. The odorant can fade over time so leaking gas is not always detectable by smell alone. 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.
- If there is an underground leak, the movement of gas through the soil can filter the odorant but the danger may still exist.
- 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. Take immediate action as discussed previously.

### Critical Points To Remember!

- Propane (LP) gas has a distinctive odor. Learn to recognize these odors. Reference Propane (LP) Fuel Gas Odor and Propane (LP) Odor Fading sections above. Make all persons aware of the heaters use and to always be consciously aware of the odors of propane (LP) gas.
- If you have not read this manual or have not been properly trained in the use and service of propane (LP) gas then do not attempt to light the 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 connections; i.e. hose to heater and hose/regulator to tank etc., is a good safety practice under all conditions. If you smell even a small amount of gas, CONTACT YOUR FUEL GAS SUPPLIER IMMEDIATELY. DO NOT WAIT!

## REFILLING THE PROPANE TANK

### ALL NEW PROPANE TANKS MUST BE PURGED BEFORE THE FIRST FILLING.

- Turn heater gas valve knob and gas tank valve to OFF position.
- Thread POL fitting into interior threads of propane (LP) tank valve. This fitting has LEFT-HANDED THREADS (reversed). Turn POL fitting COUNTER CLOCKWISE to tighten and CLOCKWISE to loosen. Protect POL fitting from damage when disconnected from tank.
- Have tank filled by your local Propane gas supplier.
- Some propane (LP) tanks have a bleed-off valve. This valve should be inspected for leaks after each filling of the tank. Turn clockwise to close the valve.
- Fasten full propane (LP) tank and connect POL fitting to tank valve by turning COUNTER CLOCKWISE .
- With heater gas valve knob still in the OFF position, turn ON tank valve and check all gas connections with a 50/50 liquid dish soap and water solution to be sure they are tight and leak proof. The formation of bubbles indicate a gas leak. Correct all leaks before using the heater. Never use a flame to check for gas leaks.

# RADIANT PROPANE TANK TOP HEATER

## REFILLING THE PROPANE TANK (CONTINUED)

Propane (LP) is safe to use when properly handled. Careless handling of the propane (LP) gas tank could result in fire and/or an explosion. Therefore:

- Always keep tank securely fastened in an upright position.
- Avoid tipping tank on its side when connected to a regulator since this may cause damage to diaphragm in the regulator.
- Handle valves with care.
- Never connect an unregulated propane (LP) tank to heater.
- Do not subject propane (LP) tank to excessive heat.
- Tightly close the gas shutoff valve on the propane (LP) tank after each use.
- The POL fitting must be protected when disconnected from the propane (LP) tank.
- Never store a propane (LP) gas tank inside a building or in the vicinity of any gas burning appliance.



**WARNING!**  
**THE TANK MUST NEVER BE STORED IN A BUILDING,  
GARAGE OR ANY OTHER ENCLOSED AREA.**

## CONNECTING HEATER TO PROPANE TANK

Read and understand all safety information before connecting heater to propane tank.

1. Make sure heat regulator knob is in the OFF position.
2. **(Applies to dual burner model only)**. Place heater onto tank with tank collar bracket over tank collar (Fig. 1) Mounting bolt knob should be positioned to the outside of tank collar. (Fig. 1)
3. **(Applies to dual burner model only)**. Firmly secure to tank by hand-tightening mounting bolt knob. Do not overtighten mounting bolt knob.
4. **For single and double burner models**, insert heat regulator valve connector into propane (LP) tank's valve outlet fitting and turn Fuel Connecting Nut left (**reverse thread, turn counterclock-wise**) until fully tightened. No wrench is required.
5. **(Applies to single burner model only)**. Loosen wing bolt and slide support bracket (Fig. 3) down until the base of the bracket seats firmly on the tank to support the burner.
6. Open propane (LP) tank valve slowly.
7. Check all fittings for leaks. Apply a 50/50 mixture of liquid dish soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.



**WARNING: NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS.**

8. Always remove propane tank from heater after each use following the guidelines in this manual. Do not store heater while attached to propane (LP) tank.



**WARNING:** Always maintain proper clearance from combustible materials. Minimum clearance from combustibles: side & rear: 36" (91 cm); Top: 36" (91 cm); Front: 60" (152 cm); Floor: 0" when installed on 20lb. tank.



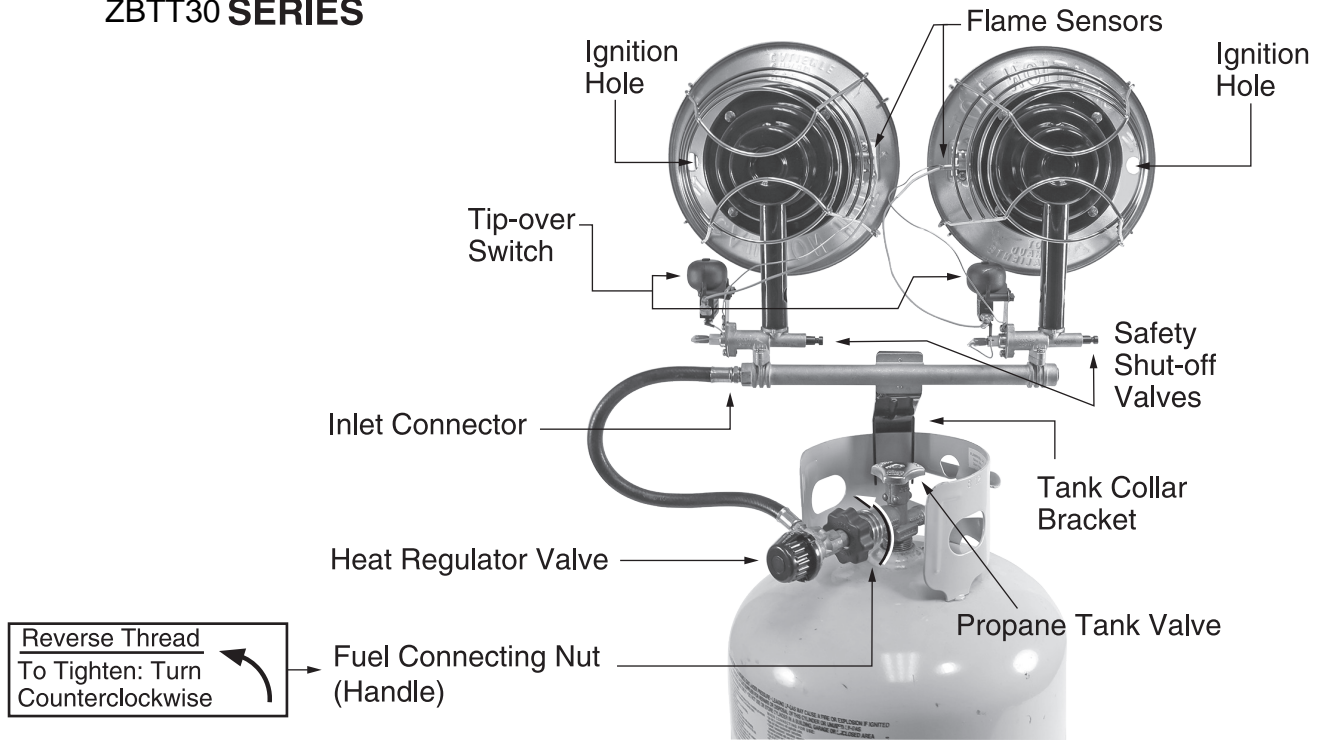
# RADIANT PROPANE TANK TOP HEATER

## CONNECTING HEATER TO PROPANE TANK

**FIG. 2**

ZBTT30 SERIES

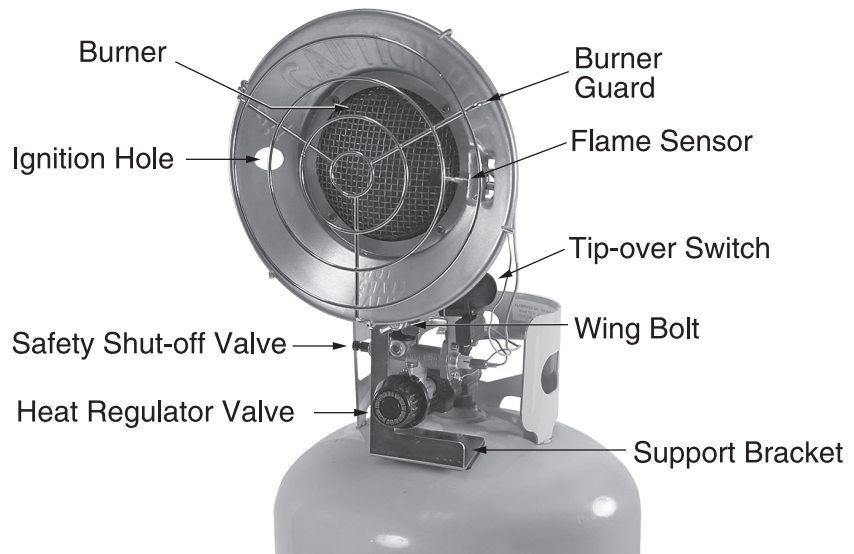
HEATER BACK



**FIG. 3**

ZBTT15 SERIES

HEATER FRONT



# RADIANT PROPANE TANK TOP HEATER

## **CHECKING FOR LEAKS**

Check all gas connections with a 50/50 mix of liquid dish soap and water solution to be sure they are tight and leak proof. The formation of bubbles indicates a gas leak. Correct all leaks before using the heater.

- The installation of your heater must meet all local codes and/or gas utility requirements or, in the absence of local codes, the Storage and Handling of Liquefied Petroleum Gases, ANS I/NFPA 58 and the Natural and Propane Installation Code, CSA B149.1.
- Always maintain proper clearance from combustible materials. Minimum clearance from combustibles; side & rear: 36" (91 cm); top: 36" (91 cm); front: 60" (152 cm); floor: 0" when installed on 20lb tank.
- The hose assembly should be visually inspected prior to each use of the heater. If it is evident that there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to the heater being put into operation. The replacement hose assembly must be the exact replacement.



**WARNING:** NEVER USE AN OPEN FLAME TO CHECK FOR LEAKS.

## **OPERATION - LIGHTING INSTRUCTIONS**

Read and understand all safety information before operating heater.



**WARNING:** Burner and Burner Guard should always face away from propane (LP) tank shut-off and regulator.



**WARNING:** Improper installation, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.



**WARNING:** Do not cover air inlet holes in mixing tube.



**WARNING:** Make sure there is no open flame in the area. Fully open the propane tank valve.

### **VENTILATION**

Always be sure to supply proper ventilation while operating this heater.

Provide a minimum of 1/2 square foot (0.047 square meter) opening for fresh air supply for 15,000 BTU's of heat and one square foot (0.10 square meter) opening for 30,000 BTU's of heat.

# RADIANT PROPANE TANK TOP HEATER

## LIGHTING INSTRUCTIONS (CONTINUED)

1. Open propane tank valve by turning it counterclockwise ↶
2. Turn heater regulator knob clockwise to the "High" position. (Fig.4) ↷.

**WARNING:** Stand to the side of unit while lighting. Do not stand or have any part of your body over or in front of heater while lighting.

3. Do not attempt to light one burner off of the other. Use one match per burner. Locate ignition hole in side of burner. (Fig. 5) Insert a lit match through ignition hole. **Do not light from front of burner.**

**CAUTION:** Do not insert match into air inlet holes in mixing tube.

4. Press safety shut-off valve fully inwards to allow gas to flow (Fig. 4 and Fig. 5).

**WARNING:** Do not push in safety shut-off valve plunger before inserting lit match.

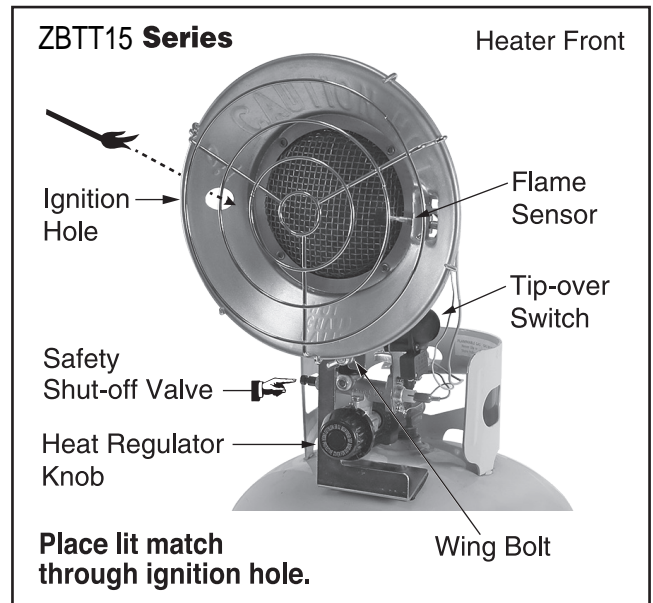
5. Burner should light. Mesh screen on burner glows red when lit. After burner is lit, continue holding in safety shut-off valve plunger (30 seconds) until heater stays lit.
6. If the burner does not light within 30 seconds, turn regulator knob to the OFF position. Wait at least five (5) minutes for the gas to dissipate before re-lighting.
7. If heater will not light after repeated tries, do not attempt to repair heater. Call Local service for assistance.

8. After burner lights, turn the heater regulator knob to the desired heat setting: LOW, MED, or HI.

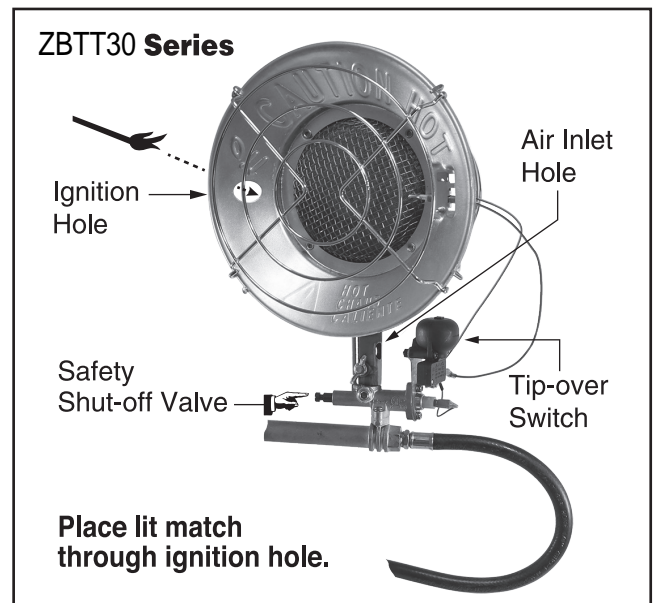
9. For dual burner models only : light both burners when maximum heat is needed. Use one burner to conserve fuel. Repeat steps to light second burner.

**WARNING:** NEVER LEAVE THE HEATER UNATTENDED WHEN LIT.

**FIG. 4**



**FIG. 5**




# RADIANT PROPANE TANK TOP HEATER

## LIGHTING UNDER WINDY CONDITIONS

When using this heater outdoors on a windy day, it will be necessary to use a match or long stem butane lighter to ignite the burner. It may be difficult to keep the match lit long enough under windy conditions. Follow the “Lighting instructions” procedure after doing the following:

1. Position the heater and tank such that the burner faces away from the wind.
2. Position your body behind the heater such that your body blocks the wind while you are following the instructions for lighting.

## TURNING OFF THE HEATER

1. Tightly close propane tank valve by turning clockwise  .
2. Turn the heater regulator knob to the OFF position. Wait at least 30 minutes for the heater to cool before handling heater.
3. Always remove the heater from the propane tank after each use. Do not store heater while attached to propane tank. Do not store propane (LP) tank in a building, garage or any other enclosed area.

### VENTILATION

Always be sure to supply proper ventilation while operating this heater.

Provide a minimum of 1/2 square foot (0.047 square meter) opening for fresh air supply for 15,000 BTU's of heat and one square foot (0.10 square meter) opening for 30,000 BTU's of heat.

# RADIANT PROPANE TANK TOP HEATER

## MAINTENANCE INSTRUCTIONS

1. Turn unit off, allow heater to fully cool and disconnect propane hose before performing any maintenance functions.
2. Keep unit clean and keep the inside of the unit debris free.
3. Have unit checked by a qualified technician at least once a year, preferably prior to the heating season.

## STORAGE

Never store a propane (LP) gas tank inside a building or in the vicinity of any gas or oil burning appliance. When the propane (LP) tank is not disconnected from the heater, the gas tank and heater must be stored outdoors in a well ventilated area, out of the reach of children. If for any reason the heater is to be stored indoors, the tank must be disconnected and stored outdoors in a well ventilated area out of reach of children, in accordance with the standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58 and CSA B149.1, Natural Gas and Propane Installation Code. The plastic tank valve plug supplied with your tank must be tightly installed when the tank is disconnected from the heater.

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Unit will not light.	<ol style="list-style-type: none"><li>1. Valve on propane (LP) tank not open.</li><li>2. Propane (LP) tank empty</li><li>3. Regulator not in "High" position</li><li>4. Excess flow device triggered.</li><li>5. Defective Regulator.</li></ol>	<ol style="list-style-type: none"><li>1. Open tank valve by turning counterclockwise.</li><li>2. Have tank refilled.</li><li>3. Turn regulator to "High" position.</li><li>4. Close tank valve, wait 5 minutes and reopen slowly.</li><li>5. Replace Regulator assembly.</li></ol>
2. Burner will not stay lit when gas valve plunger released.	<ol style="list-style-type: none"><li>1. Wiring of thermocouple</li><li>2. Defective thermocouple</li><li>3. Defective gas valve</li></ol>	<ol style="list-style-type: none"><li>1. Check wiring connections are properly engaged.</li><li>2. Replace thermocouple.</li><li>3. Replace gas valve assembly.</li></ol>
3. Excessive flames coming out of burner, not glowing red.	<ol style="list-style-type: none"><li>1. Debris or spider webs in mixing tube or burner.</li><li>2. Clogged orifice</li></ol>	<ol style="list-style-type: none"><li>1. Clean burner tube with bottle brush, rinse in water and drain thoroughly before reinstalling.</li><li>2. Remove and clean using compressed air.</li></ol>
4. Flames flashback/burn inside the mixing tube	<ol style="list-style-type: none"><li>1. Debris or spider webs in mixing tube.</li><li>2. Clogged orifice</li></ol>	<ol style="list-style-type: none"><li>1. Clean burner tube with bottle brush, rinse in water and drain thoroughly before reinstalling.</li><li>2. Remove and clean using compressed air.</li></ol>

# RADIANT PROPANE TANK TOP HEATER

## LIMITED WARRANTY

This **ZOBO**® product is warranted to the original purchaser to be free of defects in material and workmanship for twelve (12) months from the original date of purchase.

This limited warranty does not cover damage or failure caused by acts of God, abuse, misuse, accidents, abnormal usage, faulty installation, products which have been modified in any way, usage with incorrect electrical voltage or frequency, failure to follow safety guidelines and suggested maintenance procedures enclosed with this product.

If this unit fails because of a manufacturing defect within 30 days of purchase, return the unit, with your receipt, to the retailer. After 30 days, but within the warranty period, if the unit was purchased within the continental United States, return it, freight prepaid, to local distributors for repair or replacement. If the unit was purchased outside the continental United States, return the unit to the place of purchase. All implied warranties, including the warranties of merchantability and of fitness of purpose, if applicable, are hereby limited in duration to the period of one year from the date of original retail purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Incidental or consequential damages arising from a breach of either express or implied warranties are hereby disclaimed and excluded. Some states do not allow the exclusion of limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. No informal dispute settlement mechanisms are available. This limited warranty is given in lieu of all other warranties.

### Manufactured By:

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