

NEVER LEAVE THE HEATER UNATTENDED WHILE BURNING!

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

PORTABLE BIG BUDDY RADIANT HEATER

Model # MH18B



PORTABLE PROPANE HEATER FOR
RECREATIONAL AND
EMERGENCY INDOOR USE

FOR US SALE EXCEPT
MASSACHUSETTS

Use only Mr. Heater branded accessories
(See page 10 for WARNING information)

LANGUAGES INCLUDED:

- ENGLISH
- SPANISH



WARNING:

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.

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

An LP cylinder not connected for use shall not be stored in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light appliance.
- Extinguish any open flame
- Shut off gas to appliance

Service must be performed by a qualified installer, service agency.

This is an unvented gas-fired portable heater. It uses air (oxygen) from the area in which it is used. Adequate combustion and ventilation air must be provided. Refer to page 2.

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:

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!

⚠️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:

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

⚠️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:

This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

⚠️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.

NOTICE:

Not for use in a "dwelling home" in California.

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⚠️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: ANY HOSE CONNECTION TO A QUICK DISCONNECT FITTING ON HEATER MUST BE REGULATED TO 11" W.C. PRESSURE.

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.

Caution:

- **When operating the heater at altitudes over 7,000 FT above sea level the heater may shut off.** (Please read the GENERAL INFORMATION)
- Some carpets or linoleum surfaces may discolor if heater is placed directly on these floor coverings.

GENERAL SAFETY INSTRUCTIONS

THIS IS A HEATING APPLIANCE. DO NOT OPERATE THIS APPLIANCE WITHOUT THE FRONT GRILL INSTALLED. DO NOT ATTEMPT TO WARM OR COOK FOOD ON THIS HEATER.

- 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.
- **This heater requires a vent area of 18 square inches (example 4.25" x 4.25" opening) at the ceiling and at floor level for adequate ventilation during operation. Do not use other fuel burning appliances inside.**
- A propane-fired portable heater used for emergency home use shall not be set at an input setting in excess of 5,000 BTU/HR (1,466 W) when located in a bathroom and shall not be set at an input setting of more than 10,000 BTU/HR (2,931 W) when located in a bedroom. Refer to Specifications table for permissible settings.
- 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.

Specifications	
Model No.	MH18B
Gas Type	Propane (LP)
Input (Btu/Hr)	4,000/9,000/18,000
Clearance To Combustibles	
Top	30"
Front	24"
Sides	6"
Rear	0"
Permissible Settings	
Bathroom Use	"LO" Only
Bedroom Use	"LO" or "MED"

- 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!

FUEL GAS ODOR

Propane (LP) 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 (LP) 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!**

- 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 properly 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!

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 1 lb. propane cylinder.
- 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 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 vary based on the temperature of the surroundings and if running the heater on low, medium, or high setting. Rough guidelines are as follows: Single 1lb cylinder (1.5 to 6hrs); 2 x 1lb cylinders (3 to 12 hrs); 20lb cylinder (24 to 108hrs); 2 x 20lb cylinders (48 to 216hrs). Heater may be operated from quick disconnect, one or both regulated inlets. Due to the properties of LP gas, runtimes can be significantly reduced when operating continuously at temperatures below 20°F. Use of a 20 lb. 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.
- NOTE: THIS HEATER MAY BE OPERATED WITH (1) OR (2) DISPOSABLE 1 LB. PROPANE CYLINDERS OR WITH A REMOTE REFILLABLE CYLINDER(S) MAX. 20 LBS USING (1) OR (2) F273701, F273702 OR F272702 HOSE ASSEMBLIES WITH FUEL FILTERS (F273699) (Fig. 1) ON EACH HOSE ASSEMBLY. HOSE NO. F273704 BUDDY SERIES HOSE, FUEL FILTER NOT REQUIRED. IT MAY ALSO BE OPERATED WITH (1) F271802 HOSE ASSEMBLY CONNECTED TO A REGULATED (11" W.C.) PROPANE SOURCE OR (1) F271803 HOSE ASSEMBLY WITH 11" REGULATOR WITH ACME NUT.**

NOTE: When using with (2) 1 LB. propane cylinders for EMERGENCY use, observe the following definition of emergency use:

- The permanent heating system is temporarily out of service.
- Heat is necessary to prevent damage to the buildings or contents.
- The temporary heating equipment is not left unattended.
- This heater requires a vent area of 18 square inches (example 4.25" x 4.25" opening) minimum for adequate ventilation during operation. Do not use other fuel burning appliances inside.
- The portable heater used shall be discontinued and removed from the building at the time the permanently installed appliances are placed back in operation.

LIGHTING / OPERATING INSTRUCTIONS FOR USE WITH DISPOSABLE 1 LB. 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(s) used must be constructed and marked in accordance with the specifications for LP-gas cylinders of the U.S. 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. (1 lb.) disposable cylinders that mate with No. 600 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**, Page 3.
- 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.

- Make sure four-position Control Knob is in "OFF" position. See Figure 2.



F273699 - Fuel Filter accessory used with hose assemblies
Accessory Not Included

Figure 1

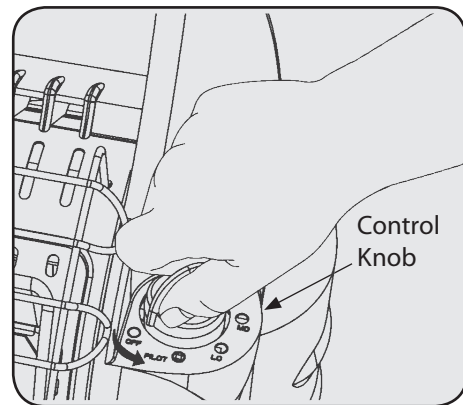


Figure 2

⚠ 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.

OPERATION

2. Screw 1 lb. disposable LP-gas supply cylinder clockwise (from bottom) into portable heater until hand-tight. See Figure 3. 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. Depress and turn Control Knob counterclockwise to "PILOT" position. See Figure 4. Ignitor will spark to light the pilot burner. Hold control knob down in "Pilot" position for 30-60 seconds.
5. After lighting pilot, release knob. Knob should return to fully extended position. See Figure 5. (If needed, repeat these steps until pilot lights).
6. Turn control knob to "LO" or "MD" position to light heater. Leave on "LO" or "MD" position until the left burner tile has turned bright orange.
7. After left burner tile has turned bright orange, adjust heat output by turning control knob to desired position ("LO", "MD" or "HI"). Note: Both tiles turn orange only on HI setting. **(2) 1 LB. propane bottles are needed to use heater in (HI) position.**

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!

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

- This Heater may be used with a remote refillable propane cylinder ONLY when the cylinder is located outdoors and the Heater is used with Mr. Heater Hose No. **F273701**, **F273702** or **F272702** and fuel filter **F273699**. Fuel filter must be replaced annually. (**NOTE:** Do not operate without the fuel filter as fuel contamination may damage the heater.) Or use **F273704** Buddy series hose. Fuel filter not required.
- It may also be operated with Mr. Heater Hose No. **F271802** which includes a quick disconnect fitting and a 3/8" female flare fitting connected to a regulated (11" W.C.) propane source or Mr. Heater Hose No. **F271803** which includes a quick disconnect fitting and a 11" W.C. regulator with acme nut.
- 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 one of the Mr. Heater Hose No's. shown above.
- The LP-gas cylinder(s) used must be constructed and marked in accordance with the specifications for LP-gas cylinders of the U.S. 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.

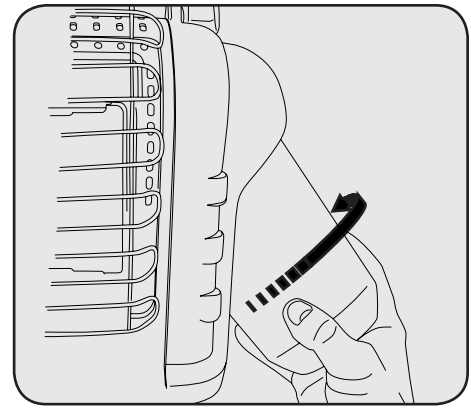


Figure 3

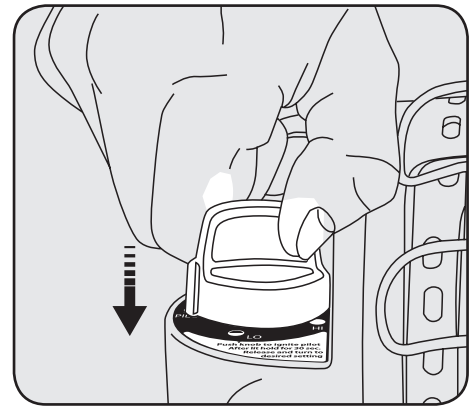


Figure 4

⚠ WARNING: Do not operate heater unless control knob is locked in a position marked "hi", "md", "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 levels by using the propane tank shut off 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 3.
- 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 five-position Control Knob is in "OFF" position. See Figure 1.
2. Screw hose connector into tank swivel or fuel filter on heater or connect to quick disconnect and screw connector on other end of hose into LP gas tank valve. Tighten all hose connections. DO NOT use thread sealant on any of these connections.
3. Mr. Heater strongly recommends using disposable fuel filter **F273699** 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 PLASTIC DOORS.
6. Depress and turn Control Knob counterclockwise to "PILOT" position and hold down for 1 - 5 seconds. See Figure 4. This may take longer to purge air from the supply hose depending on the length of the hose being used.
7. Depress and turn Control Knob counterclockwise to "PILOT" position. Ignitor will spark to light the pilot burner. Hold control knob down in "Pilot" position for 30-60 seconds.

8. After lighting pilot, release knob. Knob should return to fully extended position. See Figure 5. (If needed, repeat these steps until pilot lights).
9. Turn control knob to "LO" or "MD" position to light heater. Leave on "LO" or "MD" position until first burner tile has turned bright orange.
10. After first burner tile has turned bright orange, adjust heat output by turning control knob to desired position ("LO", "MD" 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.

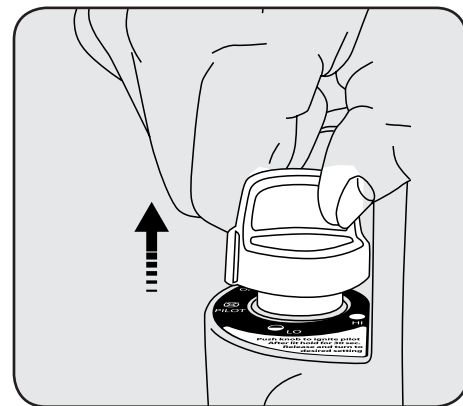


Figure 5

CAUTION: After turning heater off, wire guard will remain hot. Allow to thoroughly cool before storing.

DANGER: NEVER bring a refillable propane cylinder indoors. A fire or explosion can occur causing property damage, serious injury or death!

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 6.
- 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.

Cleaning Instructions (Refer to Exploded Parts on Page 10):

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 wire guard from front of heater by gently bending to remove from holes in front cover.
3. Remove (4) four screws that secure the rear cover (ref. # 3) to the heater.
4. Pivot cover outward from bottom. Release from 2 top clips. Set aside.
5. Remove (3) screws attaching lower baffle to expose burner air openings.
6. Inspect interior of casing assembly for accumulation of dust, lint or spider webs. If necessary, clean interior casing assembly with a vacuum cleaner or apply air pressure. Do not damage any components within casing assembly when you are cleaning.
7. Inspect and clean main burner orifice located at bottom of burner venturi tube, by using a vacuum or apply air pressure at orifice opening.
8. 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 6.
9. Apply air pressure into ceramic tile of burner assembly and the venturi tube to remove dust, lint or spider webs.
10. Reinstall lower baffle with (3) screws.
11. Slide back cover over (2) plastic hooks on top of heater. Make sure rear cover aligns with plastic side covers and reinstall (4) screws to hold in place.
12. Replace wire guard.
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.

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.

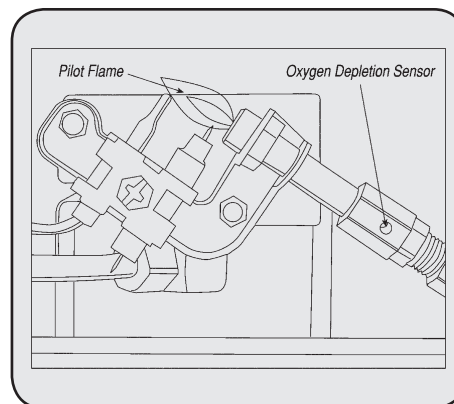


Figure 6

⚠ WARNING: 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.

SYMPTOM

- **Spark electrode does not produce spark.**

CAUSE

1. Spark electrode broken.
2. Igniter wire may not be attached to spark electrode.
3. Igniter wire damaged.
4. Piezo igniter on control valve defective.

REMEDY

1. Replace.
2. Attach igniter wire.
3. Replace igniter wire.
4. Replace control valve.

SYMPTOM

- **Spark electrode produces spark but pilot does not light.**

CAUSE

1. No gas to heater.
2. "PILOT" position not properly aligned.
3. Pilot is blocked with foreign debris.

REMEDY

1. Install disposable cylinder or connect hose and filter where required and turn on valve at remote cylinder.
2. Turn gas control knob to "PILOT" position and depress.
3. Clean pilot. See MAINTENANCE section.

SYMPTOM

- **Pilot flame does not stay lit when knob is released.**

CAUSE

1. Improper pilot lighting.
2. Pilot flame not surrounding thermocouple.
3. Pilot Assembly is defective.
4. Tip switch wires are disconnected.

REMEDY

1. Make sure that the control knob is completely depressed in the "PILOT" position and held long enough to purge air from lines.
2. Clean pilot, see MAINTENANCE.
3. Replace Pilot Assembly.
4. Connect tip switch wires.

SYMPTOM

- **Main burner does not ignite.**

CAUSE

1. Main burner orifice is blocked.

REMEDY

1. Clean burner - see Maintenance.

SYMPTOM

- **Heater keeps shutting "OFF" during normal operation.**

CAUSE

1. Pilot is blocked.
2. Inadequate fresh air opening.
3. Tip over switch activated from bumping heater.

REMEDY

1. Clean pilot. See MAINTENANCE section.
2. Provide minimum fresh air opening of 18 square inches (example 4.25" x 4.25" opening).
3. Re-light.

- For additional assistance or information, please call Technical services.