# OPERATING INSTRUCTIONS AND OWNER'S MANUAL

# PORTABLE BIG BUDDY RADIANT HEATER



Model # MH18B

PORTABLE PROPANE HEATER FOR RECREATIONAL AND COMMERCIAL USE

FOR CANADA & Massachusetts sale

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

LANGUAGES INCLUDED:

ENGLISH

FRENCH



WARNING: For Outdoor Use Only.

CARBON MONOXIDE HAZARD	DANGER If you smell gas: 1. Shut off gas to the appliance.
This appliance can produce carbon monoxide which has no odor.	<ol> <li>2. Extinguish any open flame.</li> <li>3. If odor continues, keep away from the appliance and immediately call your gas supplier or fire department.</li> </ol>
Using it in an enclosed space can kill you. Never use this appliance in an enclosed space such as a camper, tent, car or home.	DANGER 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.

**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.

# **AWARNING**:

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**:

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

#### Caution:

WARNIN

- 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.
- Young children should be carefully supervised when they are near the appliance.

# **AWARNING**:

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.

# **AWARNING**:

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.

WARNING: Improper installation, adjustment, 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.

- Clothing or other flammable materials should not be hung from the heater, or placed on or near the heater.
- Do not operate heater in any moving vehicle.
- 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.
- 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.

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Specifications		
Model No.	MH18B	
Gas Type	Propane (LP)	
Input (Btu/Hr)	4,000/9,000/	
	18,000	
Clearance To Co	ombustibles	
Тор	30″	
Front	24″	
Sides	6″	
Rear	0″	

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

- 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.
- Keep ventilation openings of the cylinder enclosure free and clear from debris.
- 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.

# ODOR FADE WARNING

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

## **GENERAL INFORMATION**

- 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.

**DPERATION** 

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) (Figure 3) 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 "FILTER NOT REQUIRED" OR (1) F271803 HOSE ASSEMBLY WITH **11" REGULATOR WITH ACME NUT** "FILTER NOT REQUIRED".

#### 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!

- LP cylinders must be marked in accordance with "Cylinders, Spheres and Tubes for Transporation of Dangerous Goods, CAN/CSA B339".
- Use only 16.4 oz. (1 lb.) disposable cylinders that mate with No. 600 valve connection.
- Heater and attached cylinder must be in an upright position during operation.
- 1. Make sure four-position Control Knob is in "OFF" position. See Figure 1.
- 2. Screw 1 lb. 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. SEE WARNING! ON DOMED PLASTIC COVER.
- Depress and turn Control Knob counterclockwise to "PILOT" position. See Figure 4. Hold Control Knob down in the pilot position for 30-40 seconds.
- 5. While holding down the Control Knob, rotate clockwise to the OFF position and immediately turn back to the pilot position, a spark will be generated at the pilot assembly and the heater should light. If the heater does not light on the first attempt, repeat the procedure.
- Once the pilot has lit, hold the Control Knob down for an additional 30 seconds to heat the thermocouple. After 30 seconds, release the Control Knob and the pilot should remain lit.
- 7. If the pilot goes out repeat the lighting procedure.
- After lighting pilot, release knob. Knob should return to fully extended position. See Figure 5. (If needed, repeat these steps until pilot lights).



Figure 1



Figure 2



Figure 3

**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", "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 levles by using the propane tank shut off valve.

- 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.
- 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**

- 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 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.
- 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 propane cylinder must include a listed overfilling protection device as well as a collar to protect the cylinder valve.
- The propane cylider must also be used with Tankfoot **F273169.** Place holder on flat surface then place 20 lb. cylinder in holder and push down to bottom.
- Heater must be in an upright position during operation.
- 1. Make sure five-position Control Knob is in "OFF" position. See Figure 1.

- 2. 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.
- 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.
- 4. Open valve at LP-gas supply cylinder.
- 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. SEE WARNING! ON PLASTIC DOORS.
- 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. While holding down the control knob, rotate clockwise to the OFF position and immediately turn back to the pilot position, a spark will be generated at the pilot assembly and the heater should light. If the heater does not light on the first attempt, repeat the procedure.
- Once the pilot has lit, hold the control knob down for an additional 30 seconds to heat the thermocouple. After 30 seconds, release the control knob and the pilot should remain lit. If the pilot goes out repeat the lighting procedure.
- After lighting pilot, release knob. Knob should return to fully extended position. See Figure 5. (If needed, repeat these steps until pilot lights).
- 10. 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.
- After first burner tile has turned bright orange, adjust heat output by turning Control Knob to desired position ("LO", "MD" or "HI" setting).





Figure 5

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

**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!

## Shutdown Instructions

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.
- 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 8):

**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.
- 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 (max. 30 psi). 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.
- 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 (max. 30 psi) into ceramic tile of burner assembly and the venturi tube (with 2 air openings) to remove dust, lint or spider webs.
- 10. Reinstall lower baffle with (3) screws.
- 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.



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.

REMEDY

#### **SYMPTOM**

#### • Spark electrode does not produce spark.

#### CAUSE

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

4. Piezo igniter on control valve defective.

## **SYMPTOM**

#### • Spark electrode produces spark but pilot does not light.

CAUSE	REMEDY
1. No gas to heater.	<ol> <li>Install disposable cylinder or connect hose and filter where required and turn on valve at remote cylinder.</li> </ol>
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.

## **SYMPTOM**

#### • Pilot flame does not stay lit when knob is released. - + T T O T

<ol> <li>Improper pilot lighting.</li> <li>Make sure that the control knob is completely depressed in the "PILOT" position and held long enough to purge air from lines.</li> <li>Pilot flame not surrounding thermocouple.</li> <li>Clean pilot, see MAINTENANCE.</li> </ol>
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.

## **SYMPTOM**

•	Main	burner	does	not	ignite.
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CAUSEREMEDY1. Main burner orfice is blocked.1. Clean burner - see Maintenance.	Main burner does not ignite.	
1. Main burner orfice is blocked.1. Clean burner - see Maintenance.	CAUSE	REMEDY
	1. Main burner orfice is blocked.	1. Clean burner - see Maintenance.

## SYMPTOM

<ul> <li>Heater keeps shutting "OFF" during normal operation.</li> </ul>		
CAUSE	REMEDY	
1. Pilot is blocked.	1. Clean pilot. See MAINTENANCE section.	
2.Inadequate fresh air opening.	2. Provide minimum fresh air opening of 18 square inches (example 4.25" x 4.25" opening).	
3. Tip over switch activated from bumping heater.	3. Re-light.	

# WARRANTY AND PARTS ORDERING

# PORTABLE BIG BUDDY RADIANT HEATER



Model # MH18B

# **AWARNING**:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY. MR. HEATER HOSES F273701, F273702 AND F272702 ARE SPECIFICALLY DESIGNED FOR USE WITH THIS HEATER ALONG WITH F273699 DISPOSABLE FUEL FILTER (REPLACE ANNUALLY). USE OF OTHER HOSES MAY CAUSE THE HEATER TO BECOME INOPERABLE. USE BUDDY SERIES HOSE NO. F273704, FUEL FILTER IS NOT REQUIRED.

# **AWARNING**:

THIS PRODUCT IS A HEATER. IT IS CERTIFIED AS A HEATER AND 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.



Learn more about outdoor heating we have.