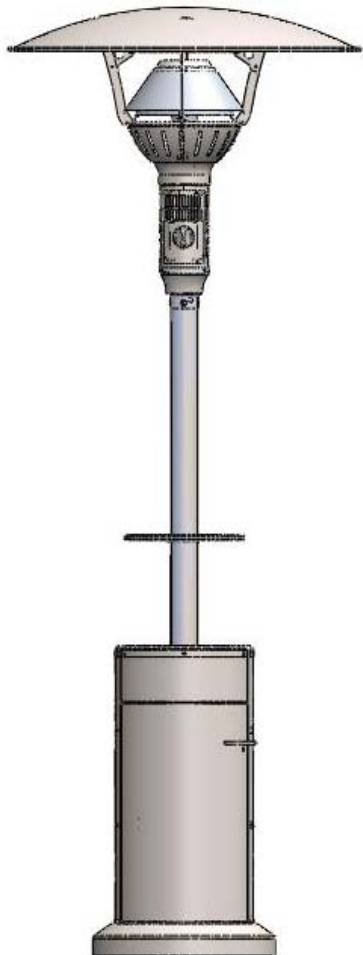




# Model No. LHFS

## Infrared Outdoor Patio Heater

Manual for Installation, Operation & Maintenance



### DANGER

If you smell gas:

1. Shut off gas to appliance.
2. Extinguish any open flame.
3. If odor continues, keep away from the appliance and immediately call your gas supplier or fire department.

### WARNING:

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.

### WARNING:

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

### WARNING: *FOR OUTDOOR USE ONLY*

Please retain these instructions for future reference.

#### **IMPORTANT:**

The installer must leave these instructions with the owner.

Only those who are certified to do so should perform service on these heaters.



### DANGER



### CARBON MONOXIDE HAZARD

This appliance can produce carbon monoxide which has no odor.

Using it in an enclosed space can kill you.

Never use this appliance in an enclosed space such as a camper, tent or home.



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# INDEX

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<b>CAUTION: FIRE OR BURN INJURY HAZARD</b>
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<b>WARNING: Do not install or place on a table or on an inclined surface, make sure the installation surface is level before installing the heater.</b>
---

- **Assembly & Installation will require the efforts of Two individuals, it is not recommended for only One Person to attempt complete assembly of the Heater.**
- At all times maintain clearance to combustible materials as further specified in this manual. Failure to do so can result in serious fire hazard.
- Never operate Heaters in atmosphere containing flammable vapours or combustible dusts.
- This Heater is equipped with an electronic ignition device. Do not attempt to light the burner by hand. Failure to comply can result in a serious fire and personal injury hazard.
- Appliance surfaces, other than the obvious flame and emitter surfaces, attain elevated temperatures during operation. **Do not touch** the heater head during operation.
- Certain materials, when stored under this Heater are subjected to radiant heat can soften, distort or otherwise be damaged, special care should be taken of plastic materials
- **Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.**
- **Young children should be supervised when they are in the area of the heater.** Playing or running around the structure should be strictly forbidden.
- **Clothing or other flammable materials should not be hung from the heater, or placed on or near the heater.**
- **Any guard or other protective device removed for servicing the heater must be replaced prior to operating the heater.** Replacement pressure regulators and hose assemblies must be those specified by the manufacturer.
- **Installation and repair should be done by a qualified / certified service person. The heater should be inspected before use and at least annually by qualified service person.** (Service person must be 'Certified' by the local / national regulating body).
- Frequent cleaning may be required. It is imperative that Burners and circulating air passageways of the heater be kept clean of debris, dust and insects.
- Cleaning of the appliance should only be done with non-combustible and non-corrosive cleaning agents.
- **DO NOT** alter the heater in **any** way; this includes shortening the pole or removing the Base Body cover or Top Reflector.

# Caution and General Safety

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- NEVER paint the Burner, Emitter, Shield Support Arms or the Reflector.
- The visible portion of the Hose Assembly must be visually inspected before each use. If there is evidence of excessive abrasion or wear, or if the hose is damaged the hose assembly must be replaced prior to the appliance being put into operation.
- This appliance shall be used only in a well-ventilated area/space and shall not be used in a building, garages or any other enclosed area.
- Never go over connections looking for leaks with a lighted match, cigarette lighter, or any other flame.
- Perform the Leak Test before initial lighting and when connecting a new LP-Gas Cylinder. A complete gas tightness check must be performed at the installation on site due to possible miss handling in shipment or excessive pressure being applied to the heater.
- Turn OFF LP-Gas Cylinder when Heater is not in use.
- **Once the Heater has been shut-down there shall be a 5-minute complete shutoff period before the Heater is re-lighted.**
- Ensure the LP-Gas Cylinder is turned OFF and disconnected prior to moving the Heater.
- Storage of a Heater indoors is permissible only if the LP-Gas Cylinder is disconnected and removed from the Heater.
- Use caution when moving the Heater, it may require two people to safely manoeuvre depending on the strength / size of the person(s). Handle ONLY the Pole or Base Body when moving the Heater, handling other components may result in damage and/or injury.

## LP-Gas Cylinder Caution and Safety

- Do not store a spare LP gas cylinder under or near this appliance.
- Never fill the Cylinder beyond 80 percent full.
- Keep Cylinders upright at all times, even during storage and transport.
- The pressure regulator and hose assembly **supplied** with the Heater must be used, or the replacement Hose Assembly **shall be** that specified by the manufacturer.
- LP-Gas Cylinders must be stored outdoors in a well-ventilated area out of the reach of children. A disconnected cylinder must have dust caps tightly installed and must not be stored in a building, garage or any other enclosed area. Ensure the storage area meets all local fire & safety requirements.

## Applicable Regulations

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- Installation must comply with local building codes or, in their absence, the latest edition of the applicable national codes: USA - National Fuel Gas Code, ANSI Z 223.1 (NFPA 54), Canada - National Gas and Propane Installation Code, CAN/CGA B149.1.
- Use and Storage of this heater must comply with local codes or, in their absence, the latest edition of the applicable national codes: USA – Standard for Storage and Handling of Liquefied Petroleum Gases, Chapter 5 of ANSI/NFPA 58, Canada - Propane Storage and Handling Code, CAN/CSA-B149.2.
- This heater, when installed, must be electrically grounded in accordance with local codes or, in their absence, with the latest edition of the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.1.
- For use **ONLY** with **20#** LP-Gas Cylinders (with a **maximum capacity of 8kg [20lb]**) constructed and marked in accordance with national codes: USA - U.S. Department of Transportation (“DOT” approved), Canada: Standard for Cylinders, Spheres and Tubes for Transportation of Dangerous Goods and Commission, CAN/CSA-B339 (“TC” approved).

### Ensure Cylinders are:

- Provided with a permanent collar to protect the valve stem;
- Provided with a listed overfilling prevention device (OPD);
- Provided with a dust cap to cover the valve connection when not in use; (Only install the type of dust cap on the cylinder valve that is provided with the cylinder valve, other types of cap plugs may result in leakage of propane); and
- Provided with a cylinder connection device compatible with a **QCC1 connection** (Quick Connect Coupling).

**Installation or repair of this heater should only be done by personnel qualified for the installation of powered gas appliances.**  
*(Certified by the local or national regulating body)*

# Location Planning

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**One Patio heater, at high fire and in windless conditions, has a comfort radius of about twelve feet (24 ft. diameter circle).**

A series of heaters providing area heat should be placed about 14-20 feet apart.

Wind protection has an important influence on the body's ability to retain radiant heat. Use natural or newly built wind barriers where possible, such as existing buildings, shrubbery or tree lines and fences

**WARNING!**

**This heater is NOT approved for any indoor Residential application. If in doubt of your application consult with your local fire marshal or gas authority having jurisdiction. Indoor spaces include but are not limited to attached garages, solariums, living quarters etc.**

**An appliance may be installed with shelter no more inclusive than:**

1. With walls on all sides, but with no overhead cover.
2. Within a partial enclosure which includes an overhead cover and no more than two side walls. These side walls may be parallel, as in a breezeway, or at right angles to each other.
3. Within a partial enclosure which includes an overhead cover and three side walls, as long as 30 percent or more of the horizontal periphery of the enclosure is permanently open.

**A patio that has been almost entirely closed in with a roof and windbreak walls or a tent may be considered an indoor location by some code authorities. Refer to the National Fuel Gas Code, ANSI z.223.1 (NFPA 54) in the US and CAN/CGA B149.1 and 149.2 installation codes in Canada.**

## **Safety Requirements**

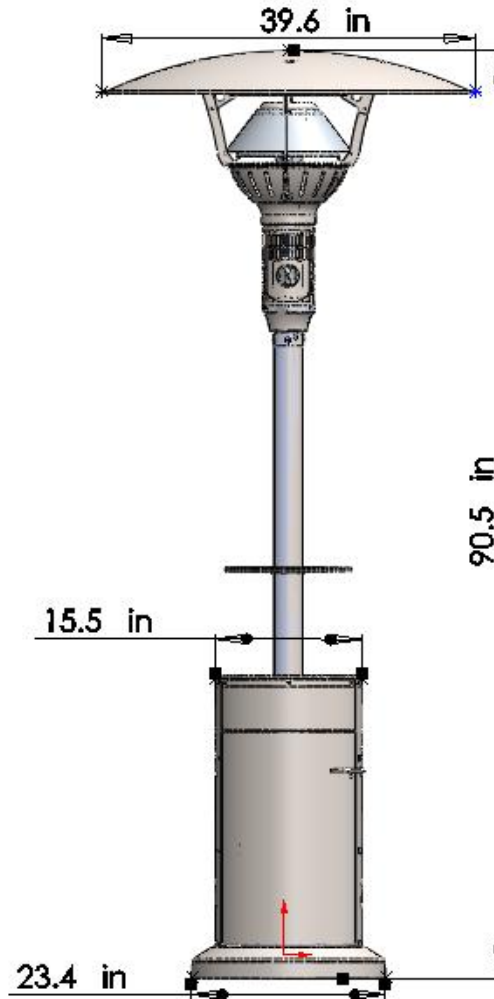
1. Never locate the heater directly below electrical lines, gas lines or sprinkler systems.

**NOTE:** Sprinkler head heat fuse link performance may alter with age.

2. Do not locate heater too close to vinyl or plastic wall coverings. These materials may discolour or soften well before they reach combustible limits.
3. The heater requires a minimum clearance from of combustible materials. See the Specifications / Details
4. Clearance to Combustible Materials information found in the Specifications / Details section.
5. Always allow room for removal of the Top Reflector and Burner head for maintenance purposes.
6. The heater aspirates (needs) air for combustion. Do not locate heater where there are severe draft conditions or airflow restrictions to the Burner head of the heater.

## Equipment Dimensions

Model # *LHFS*



## LP-Gas Cylinder Compatibility

To be used **ONLY** with **20 lb LP-Gas Cylinders** with a **maximum capacity of 8kg (20 lb)** which meet the criteria described in the Applicable Regulations section of this manual.

**The Cylinder and its connector fittings must be maintained in good condition.**

### Gas & Power Specifications

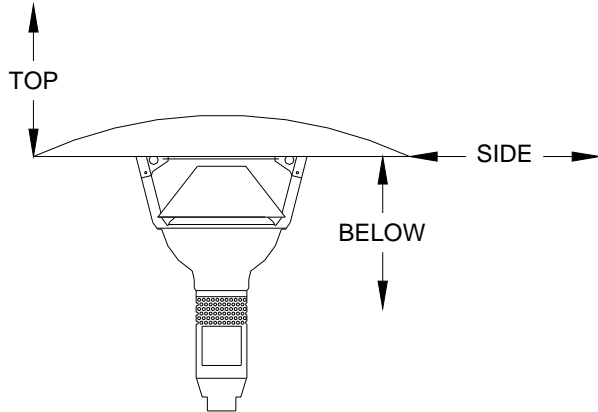
<b>Maximum Fire Rate:</b>	46,000 BTU/hr
<b>Gas Manifold Pressure:</b>	11" W.C.
<b>Ignitor Electric Supply:</b>	One (1) "AA" Battery
<b>Maximum Inlet Gas Supply Pressure:</b>	250psi

# Specifications / Details

## Clearance to Combustible Materials

The following clearance data is based on a maximum limit of 90°F (32 °C) plus ambient temperature. **Note with an ambient temperature of 70°F the surface temperatures at the clearance distances listed below could reach 160°F.** Care should be taken with placement of plastic or vinyl in the proximity of the heater as they tend to distort and soften at these temperatures.

## CLEARANCE TO COMBUSTIBLES



MODEL No.	TOP	SIDES	BELOW
LHFS	18"	22"	33"

Combustible materials are considered to be wood, compressed paper, plant fibres, plastic, Plexiglas or other materials capable of being ignited and burned. Such materials shall be considered combustible even through flame-proofed, fire-retardant treated or plastered.

Additional clearance may be required for glass, painted surfaces and other materials which may be damaged by radiant or convection heat.

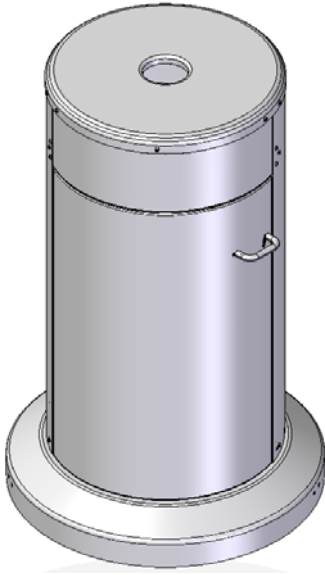
**NOTE:** Some materials deteriorate or soften at sustained temperatures below 160°F.  
Consult material manufacturer for recommendations

**The Installer is responsible to ensure that building materials with a low heat tolerance which may degrade at higher temperatures are protected to prevent degradation.**

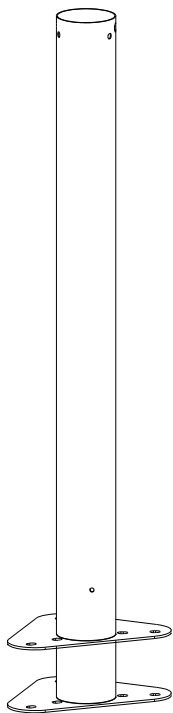
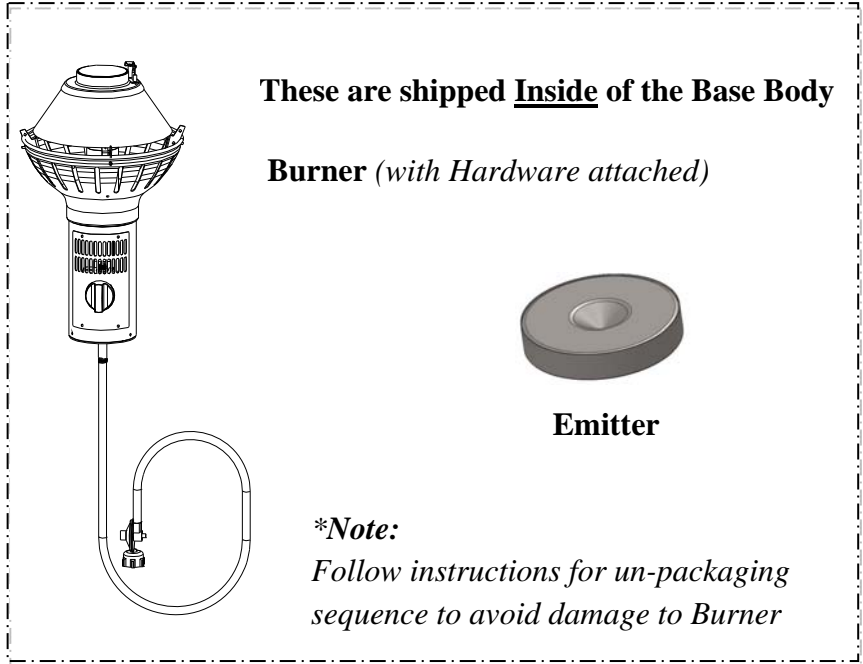


# Installation Instructions

## Shipping Crate Contents



**Base Body, Base Cover,  
Base Support Pillars &  
Counterweight**



**Pole Assembly**



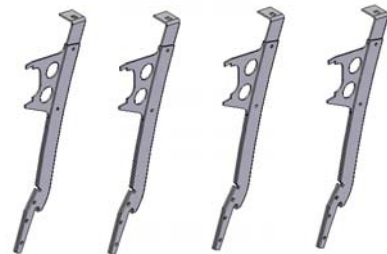
**Pole Neck**  
*- With Hardware attached*



**Outer Shield**  
*Note:  
Remove plastic covering  
before lighting the heater*





**Wheels**  
*- With Hardware attached*



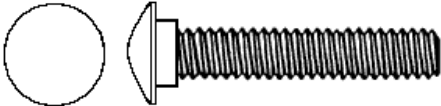

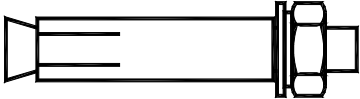

**Shield Support Arms (4)**  
*- With Hardware attached*

# Installation Instructions

## Additional Parts:

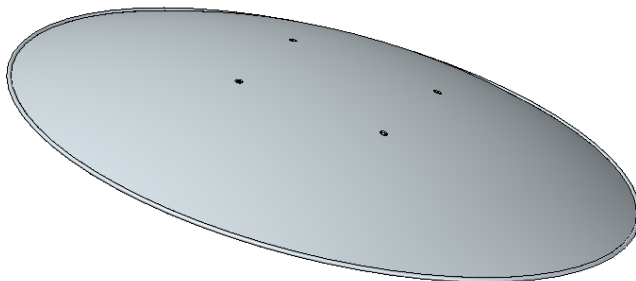
Base Bracket (3) - <i>with Hardware attached</i>	
"AA" Battery (1)	

## Hardware:

Description	Drawing / Picture	Used On
M8-1.25 X 90 mm Hex Head Carriage Bolt (6) - S/S		To hold pole to base support
1/4" - 20 x 1/2" Truss Head Screw with Nut (4)		To hold reflector
Ø8M-1.25 X 65 mm Anchor Bolt (3)		To hold down heater to concrete foundation.
#10 x 1 1/2" Wood Screw (3)		To hold down heater to wooden deck.

*\*A COMPLETE PARTS LIST IS LOCATED IN THE  
Maintenance and Trouble Shooting SECTION OF THIS DOCUMENT*

## Packaged Separately:



**Reflector**

**Note:**  
*Remove plastic covering before  
lighting the heater*

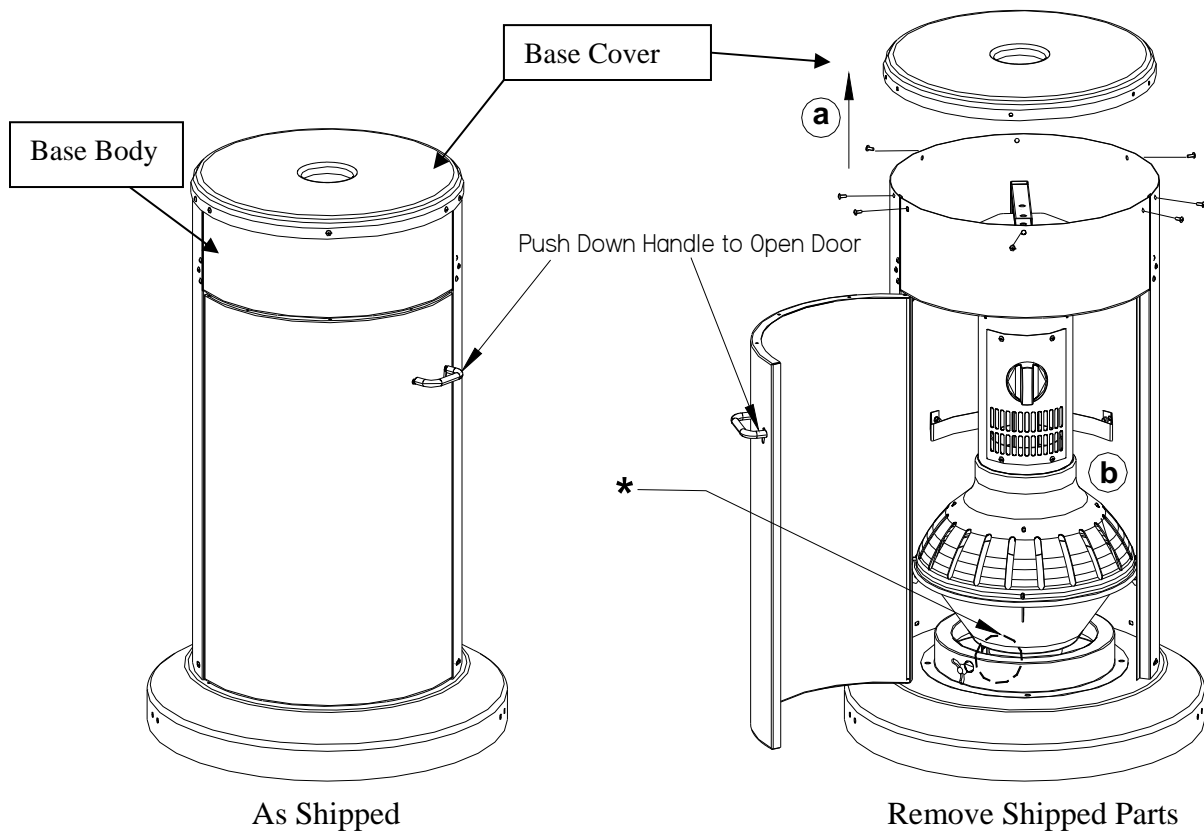


**Table  
(Optional)**

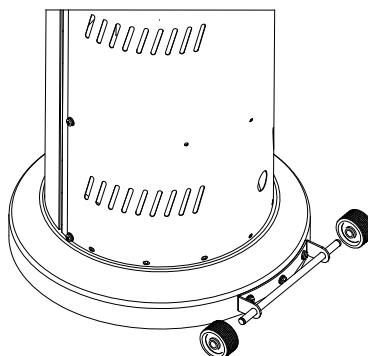
# Installation Instructions

## Assembly of Outdoor Patio Heater

1. Disassemble shipped parts:
  - a. Remove the Base Cover from the Base Body by unscrewing the eight (8) screws holding the Base Cover on.
  - b. Open the Door of the Base Body by pushing down on the handle to disengage the door from the latch. Carefully cut the zip ties holding the Gas Hose Assembly to the interior of the Base Body and remove the Burner. \* **Be Careful to “lift” out the Burner** to avoid damage to the pilot assembly which extends from the cone shaped Inner Shield.



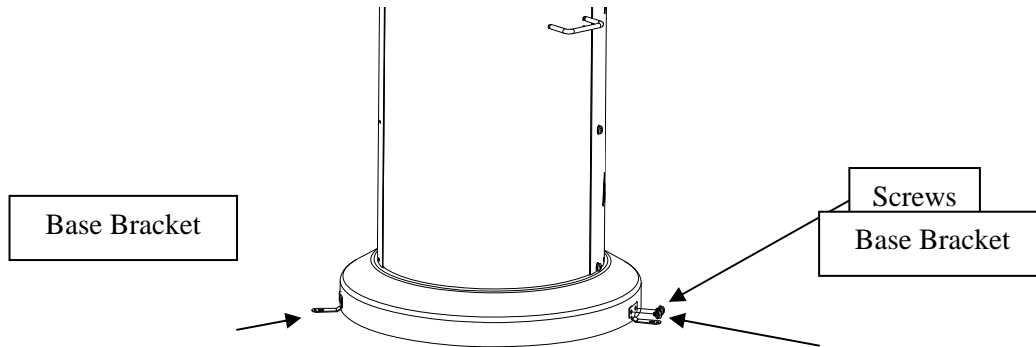
2. Connect the Wheel Mounting Bracket to the base using two (2) screws and nuts attached. Insert the screws through the Base of the Heater into the Wheel Mounting Bracket, so the nuts are visible.



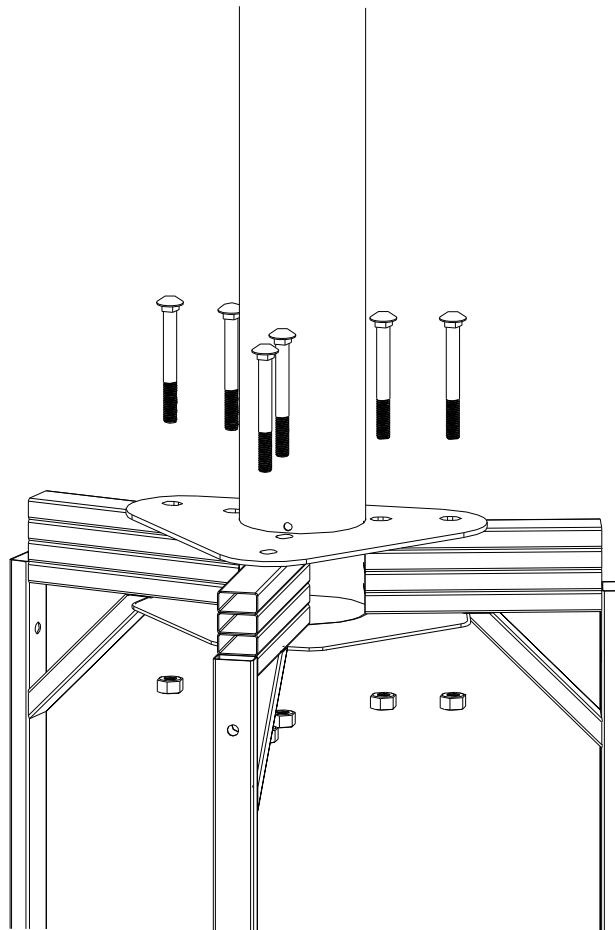
# Installation Instructions

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3. Connect a Base Bracket, using the hardware attached to it (1/4-20 x 1/2 Truss Head Bolts), at each set of two (2) holes located around the Base of the Heater (total of three Base Brackets). Assemble so that the heads of the Screws are seen from the outside of the Base. The side of the Bracket with the remaining hole should be flat against the Floor / Ground.

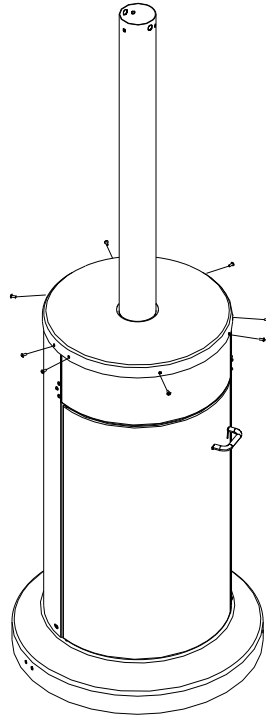


4. Assemble the Pole and the Base Support Pillars together using six (6) M8-1.25 x 90 mm Hex Head Carriage Bolts provided.



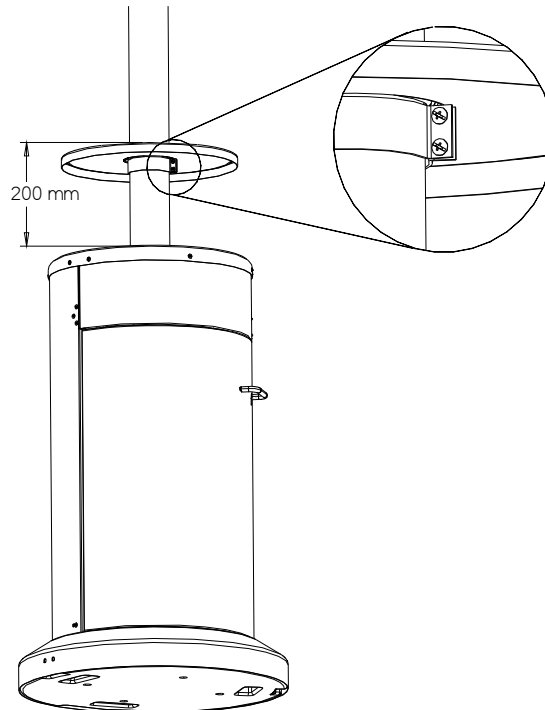
# Installation Instructions

- Slide the Base Cover down over the top of the Pole. Reassemble the Base Cover with the Base Body using the eight (8) screws removed previously in Step 1-b.



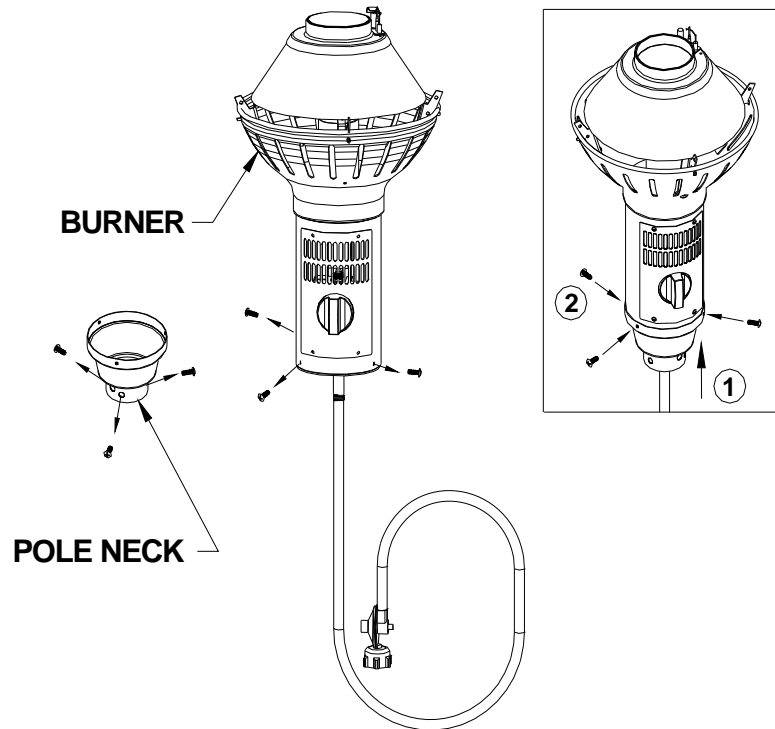
## OPTIONAL TABLE Installation Point:

Slide the Table down over the top of the Pole, position it in place 8" (200 mm) up from the Base Cover. Secure by tightening the screw(s) of the Table Clamp around the inside neck of the Table and the Pole so that the Table will not move.

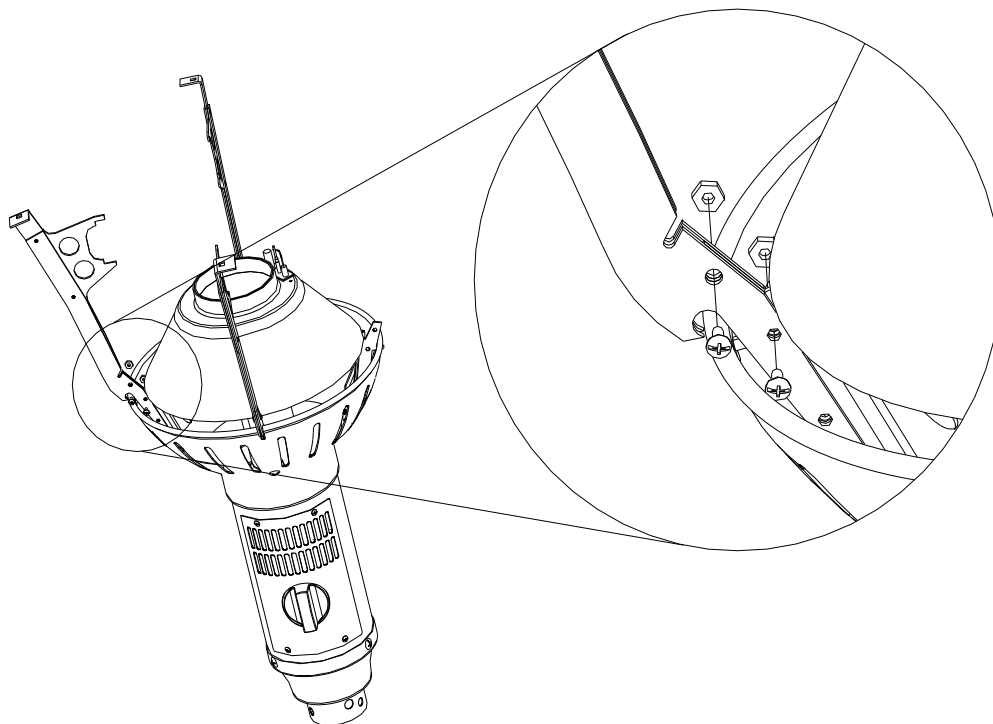


# Installation Instructions

- Remove the three (3) #10-24 x 3/8" screws near the bottom of the Burner and the three (3) screws in the Base of the Pole Neck piece. Insert the Gas Hose Assembly (with regulator attached) through the Pole Neck. Secure the Burner Head to the Pole Neck using the three (3) screws which were removed from the Burner.

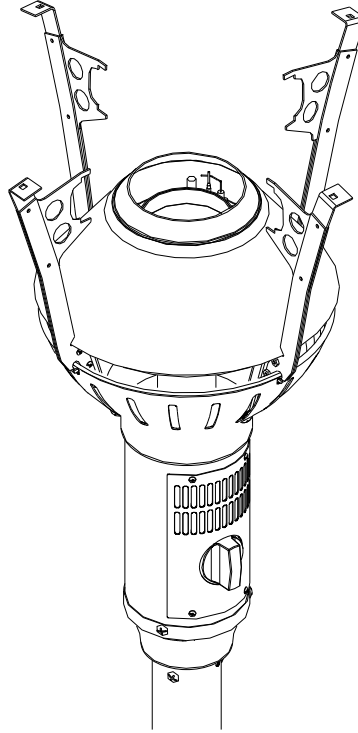


- Assemble the Shield Support Arms to the Burner housing using the Two (2) M4-0.7 x 10mm screws and nut sets shipped on each arm. Install all four (4) Support Arms.

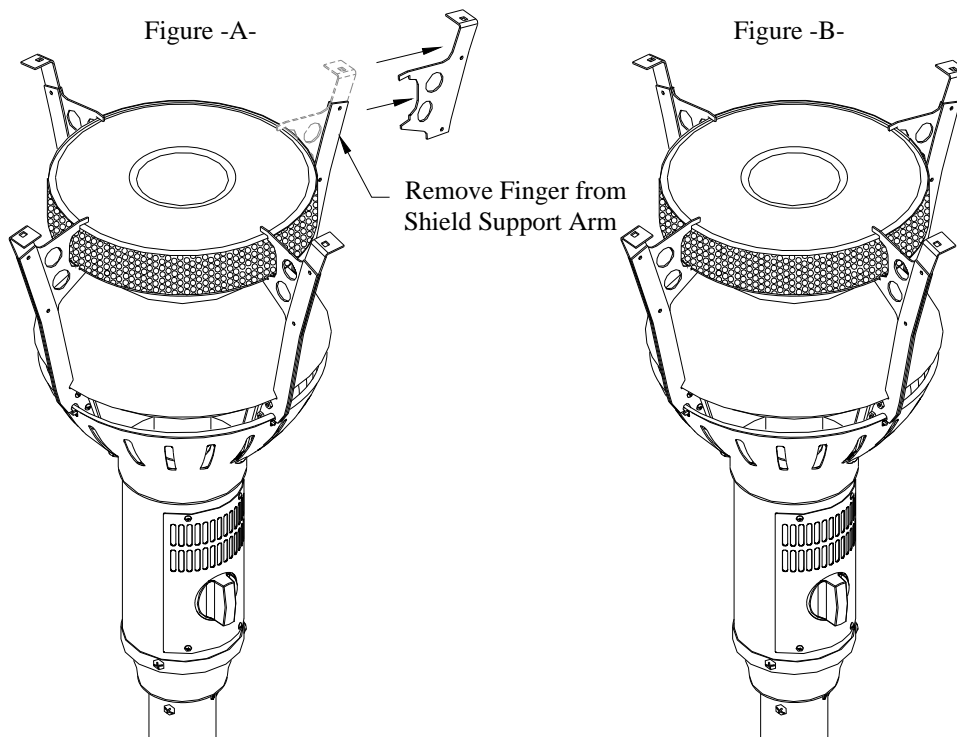


# Installation Instructions

8. Insert the Outer Shield into the four (4) Shield Support Arms. Make sure to remove (peel off) the plastic covering at before assembly.



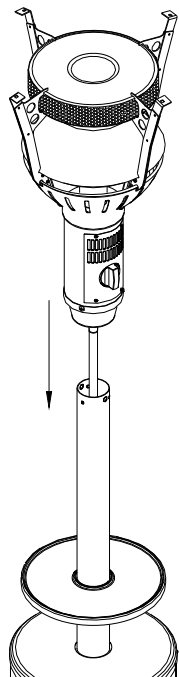
9. Remove one of the Fingers from Shield Support Arm then insert the Emitter Ring into the three (3) Shield Support Arms (refer to figure A below), and re-assemble the Finger of last arm (refer to figure B below). It is normal for the Emitter to have some movement for thermal expansion (once the Reflector is assembled the Emitter will be held more tightly in-place).



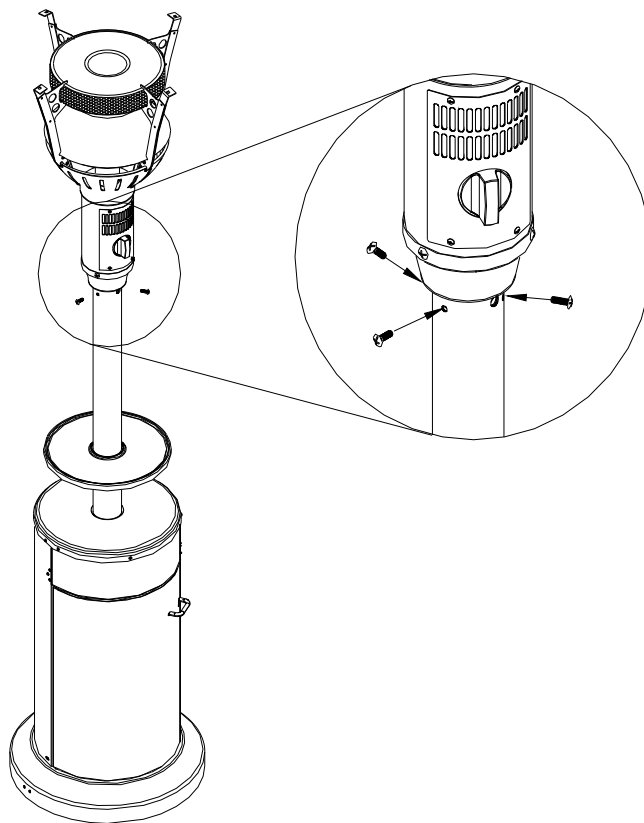
# Installation Instructions

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10. Insert the Gas Hose Assembly of the Burner (with regulator attached) into the hollow top end of the Pole, and feed it all the way through / down.



11. Secure the Burner Head to the Pole with the Three (3) 1/4"-20 x 1/2" screws previously removed from the Pole Neck piece. Make sure that the Burner Control Panel Knob faces the same direction as the door of Base Body.

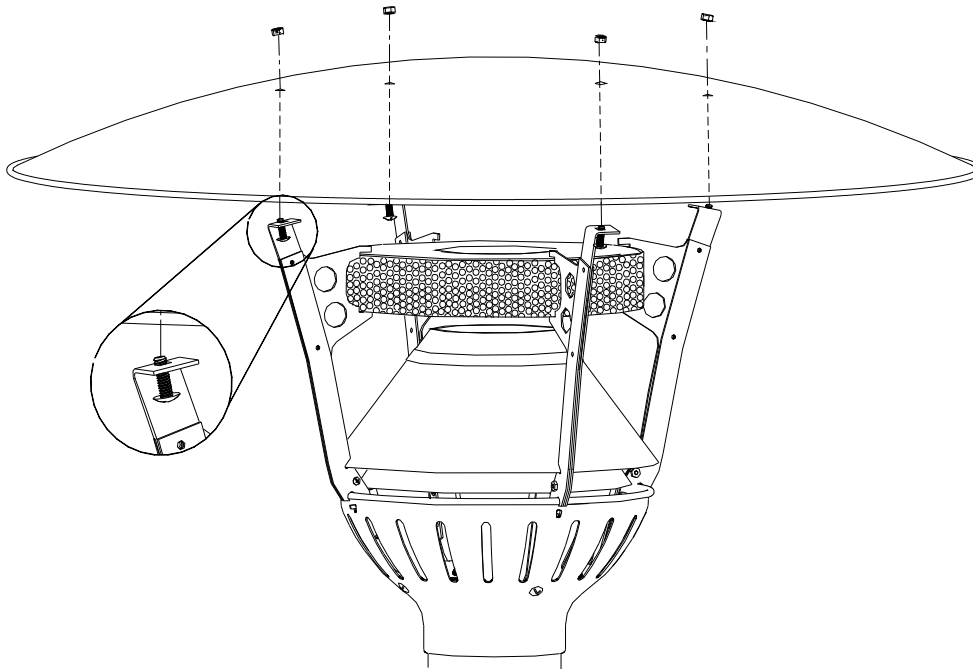




# Installation Instructions

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12. Install the Top Reflector onto the Shield Support Arms of the Burner using the four (4) 1/4"-20 x 1/2" carriage bolts with nuts provided. Insert the **screws up through the Shield Support Arms** and then through the Top Reflector. Secure each bolt with a **nut on top of the Reflector**. Make



sure to remove (peel off) the plastic covering before assembly.

## **Warning:**

**This heater is equipped with a tilt / tip switch for your safety. This heater will shut the gas valve if it is tipped or tilted.**

**This heater will not operate at an inclined position. Ensure the heater is in the upright position, and should not be positioned on an incline.**

**Your Patio heater is now assembled and is ready to connect to your LP-Gas Supply Cylinder.**

# Installation Instructions

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## Position / Move the Heater

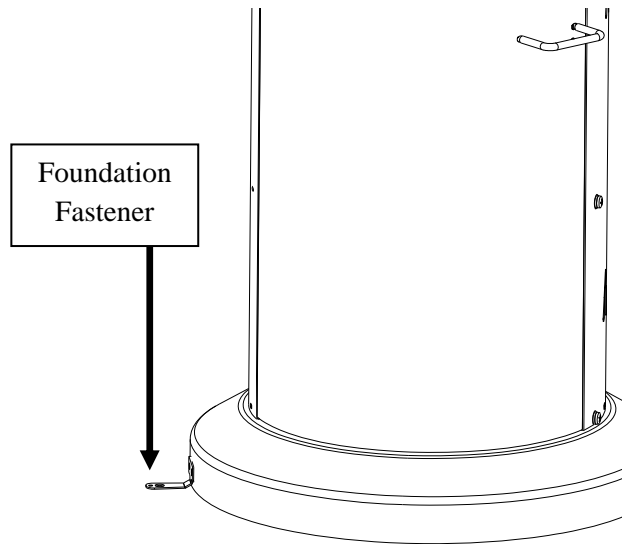
1. Ensure Wheels are properly connected to the Base Body. (Refer to Installation Step 2.)
2. **Move the Heater by handling ONLY the Pole or the Base Body.** It may take two people to manoeuvre the Heater safely depending on the size / strength of the person(s).
3. Tip the Heater backwards at an angle to / overtop of the wheels until Base no longer touches the ground. Wheel / roll Heater to new location and return Base to ground. Ensure Heater is on level ground and stable in new location.
4. If the Heater is **going to be operated** at the new location the **“Secure the Heater”** procedure **must be completed.**

# Installation Instructions

## Secure the Heater

1. Ensure that the Base Brackets are properly installed as described in Installation Step 0.
2. The type of Foundation Fastener required depends on the type of Floor / Ground that the Heater is located upon. Prepare the Floor / Ground as detailed in Table A, at all three bracket locations. (Ensure that alignment with the connecting hole(s) of the Base Bracket is maintained.)

Insert / Connect the three Foundation Fasteners as detailed in Table A.



**Table A: Methods for Securing Heater to Floor / Ground**

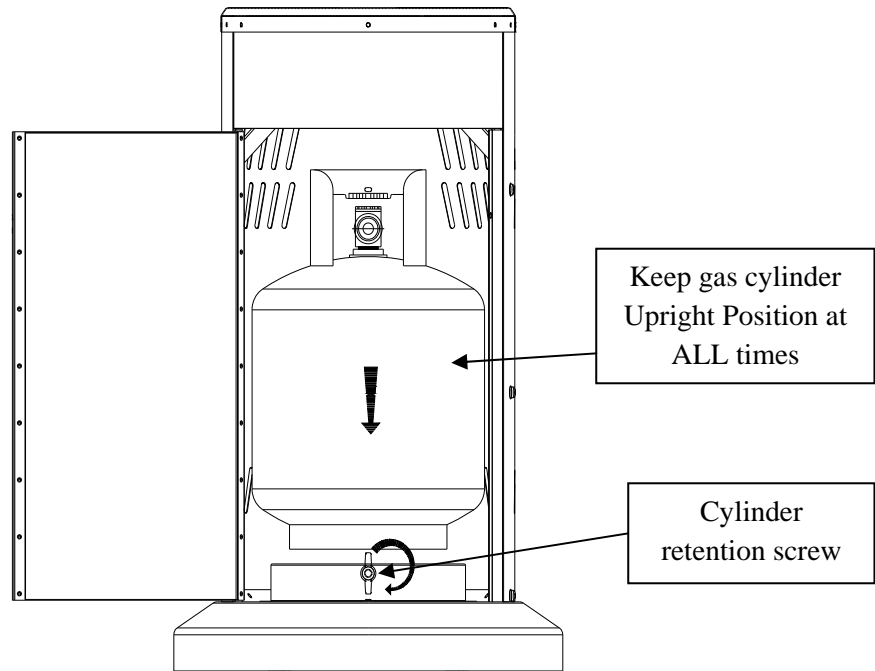
<b>Floor / Ground Type</b>	<b>Foundation Fastener Type &amp; Size</b>	<b>Mounting Method Summary</b>	<b>Floor / Ground Preparation</b>
Concrete	Concrete Anchor Ø8mm x 65mm EN12 B14	Place Anchors into pilot holes aligned with Base Brackets - tap / hammer lightly, screw fastener into anchor	<b>Drill 3 - Pilot Holes</b> Pilot hole drill size: Concrete = 14mm
Wood Deck	Wood Screw #10 x 1 1/2"	Secure using Wood Screws in pilot holes aligned with Base Brackets	<b>Drill 3 - Pilot Holes</b> Pilot hole drill size: Hardwood = 7/64" Softwood = 3/32"

# Installation Instructions

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## Connecting the LP-Gas Supply

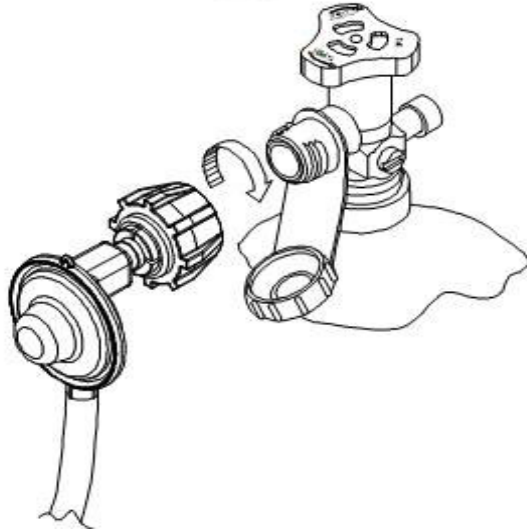
1. Attach the LP-Gas Cylinder to the Tank Base Retainer using the Cylinder Retention Screw. Make sure the LP-Gas cylinder is in the upright position.



# Installation Instructions

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2. Secure the Gas Hose Regulator onto the LP-Gas Cylinder valve by turning the Regulator clockwise until tight.



## Before using the patio heater:

- Make sure **door is shut** and stays shut at all time and is not in pedestrian pathway.
- **Move** Heater to desired location.
- **Secure** the Base Body to the floor.
- Perform a **Leak Test** to check the Gas Hose Assembly connections for any gas leaks.

# Testing / Commissioning

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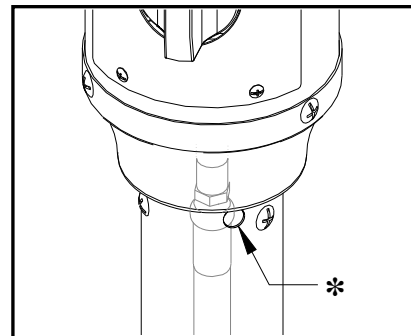
## Leak Test Method

Never go over connections looking for leaks with a lighted match, cigarette lighter, or any other flame.

Perform the Leak Test before initial lighting and when connecting a new LP-Gas Cylinder. A complete gas tightness check must be performed at the installation on site due to possible miss handling in shipment or excessive pressure being applied to the heater.

1. Make up a dish of soap and water solution of one part liquid detergent and one part water.
2. Spread the soap and water solution over the hose and the connections with a spray bottle, a small paintbrush or a rag.
3. With the heater shut OFF, turn the cylinder valve ON.
4. Any leaks will result in bubbles forming in the solution. If a leak is indicated, shut OFF the cylinder valve.
5. Repair any leak, have only a licensed technician complete the repair. (The replacement Gas Hose Assembly shall be as specified by the manufacturer.)
6. Repeat steps 1, 2 and 3 until no leaks are indicated at all hose connection locations.
7. If you cannot stop the leaks shut OFF the supply valve on the LP-Gas Cylinder and disconnect the cylinder from the heater. Place the heater OUT OF SERVICE and consult a certified service person.

\* Use the viewing holes at the top of the Pole to check for leaks near the Burner connection.



**After passing the Leak Test your patio heater is now ready for use.**

### **Caution:**

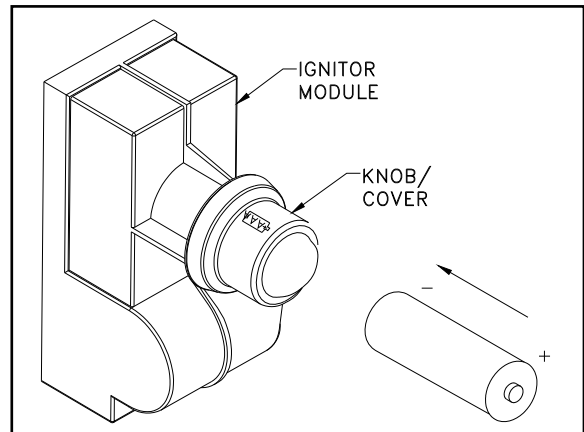
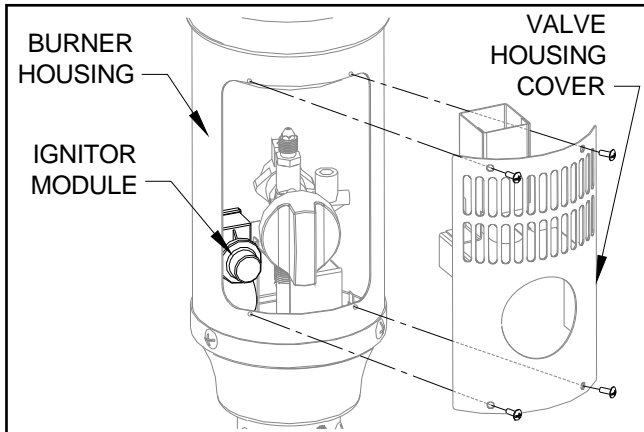
Heater will produce smoke for the first time it is being lit, this is normal. Make sure NOT to light the heater in an enclosed area.

# Operating Instructions

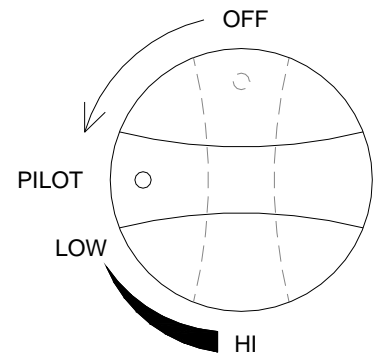
Follow all Caution and General Safety rules at all times before / during use.

## Lighting

1. Remove the Four (4) screws holding the Valve Housing Cover onto the Burner Housing in order to open the Cover and get access to the Ignitor Module.
2. Unscrew the knob /cover from the Ignitor Module.
3. Take the One (1) AA battery out of the bag / packaging and insert it into the ignitor module, in the orientation as shown in the image below, then put the knob /cover back on.



4. Reposition the Valve Housing Cover on the Burner Housing and re-secure using the same Four (4) screws.
5. Open the gas cylinder valve.
6. Push and turn the knob counter-clockwise from the OFF position to the PILOT position to start the gas flow and ignite the burner flame pilot. **Keep pressing till the pilot is lit and stays lit (for approximately 60 seconds to heat up the thermocouple) and then release the pressure from the knob.**
7. Turn the knob to the HI position to increase the temperature output of the heater.

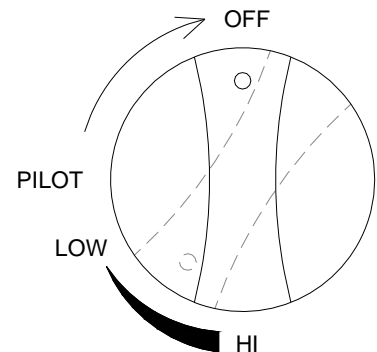


## Caution:

Heater will produce smoke for the first time it is being lit, this is normal. Make sure NOT to light the heater in an enclosed area.

## Shut Down

1. Turn the knob clockwise into the OFF position to turn off the gas flow and extinguish the burner flame.
2. Turn propane tank gas valve clockwise to 'OFF' position when heater is not in use



## WARNING:

Improper Lighting, Shutting Down can cause injury, death or property damage. Read the Lighting and Shutting Down instructions thoroughly before operating or servicing this equipment.

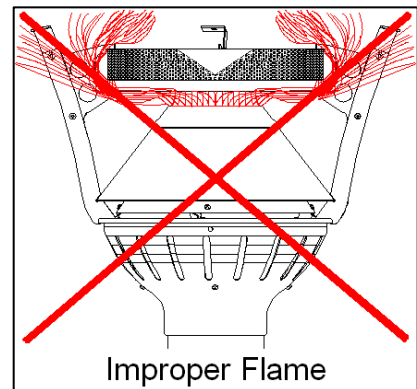
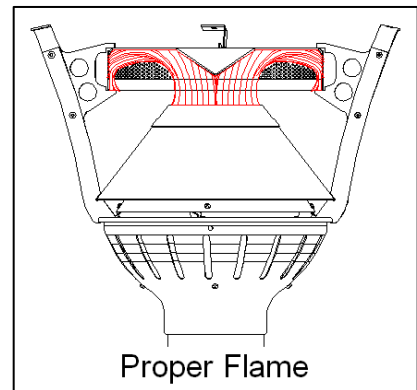
# Maintenance and Trouble Shooting

## Maintenance

- \* **Follow Caution and General Safety rules at all times before / during use.**
- \* **Before performing ANY service to the heater, shut off the gas supply,** disconnect the regulator from the LP-Gas Cylinder and remove the battery from the ignitor module.
- \* **If any maintenance issues are found place the heater OUT OF SERVICE until it has been repaired by a certified service person.** Use only manufacturer recommended replacement parts.

## Daily Inspections:

1. Keep the appliance area clean and free from combustible materials, gasoline and other flammable vapors and liquids.
2. The visible portion of the Gas Hose must be visually inspected before each use. If there is evidence of excessive abrasion or wear, or if the hose is damaged the hose assembly must be replaced prior to the appliance being put into operation.
3. Keep the ventilation opening(s) of the cylinder enclosure free and clear from debris and cobwebs.
4. Visually check the Burner flame pattern during use. A **“Proper Flame”** should resemble image on right.
5. If at any time flames extend beyond the emitter surface (see image to the right below **“Improper Flame”**) or black soot is found on the inside of the reflector **TURN OFF** the heater immediately and place **OUT OF SERVICE** until repairs are made.
6. Clean the appliance, if necessary, with non-combustible and non-corrosive cleaning agents. Ensure control compartment (ignition module), burners & circulating air passageways are kept clean of dust, insects, cobwebs and other debris.



## Annual Inspections:

1. Inspect and Leak Test entire Gas Hose Assembly for damage, excessive abrasion, wear and leaks:
  - a. Ensure burner is cool to touch and supported while disassembling.
  - b. Disassemble the Burner from the Pole by removing the three (3) screws in the Pole Neck.
  - c. Remove the Gas Hose Assembly from the Pole to inspect and Leak Test **the entire hose and all connections.** Repair / replace as required and reassemble as described in Outdoor Patio Heater Assembly, Steps 6 & 11 of the Installation Instructions.
2. Check condition of the Burner, especially the integrity of the flame screen.
3. Inspect condition of spark and sense electrode. Check for cracks in ceramic insulators or excessive corrosion.
4. **Inspect condition of high tension lead to spark rod.**

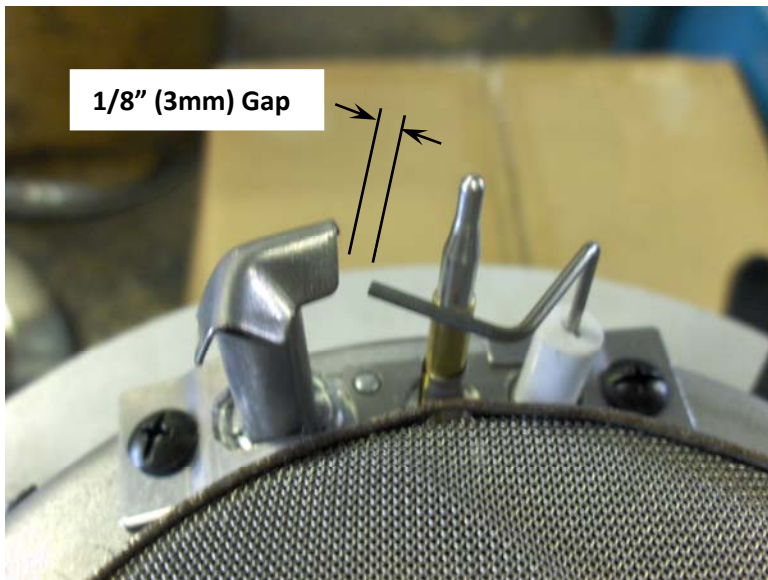


# Maintenance and Trouble Shooting

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## Trouble Shooting

1. No gas supply at burner:
  - Ensure manual shut off valve is in proper position
  - Ensure there is pressure and flow at inlet to gas valve.
  - Ensure LP-Gas Cylinder has fuel in it.
2. No spark:
  - Ensure battery in ignition module is operating.
  - Ensure spark electrode assembly is grounded and there are no cracks in ceramic insulator.
  - Ensure the gap (spark gap) between Pilot and Spark Ignitor electrode is 1/8" – 3/16" (3mm – 4.5mm) as per picture below.



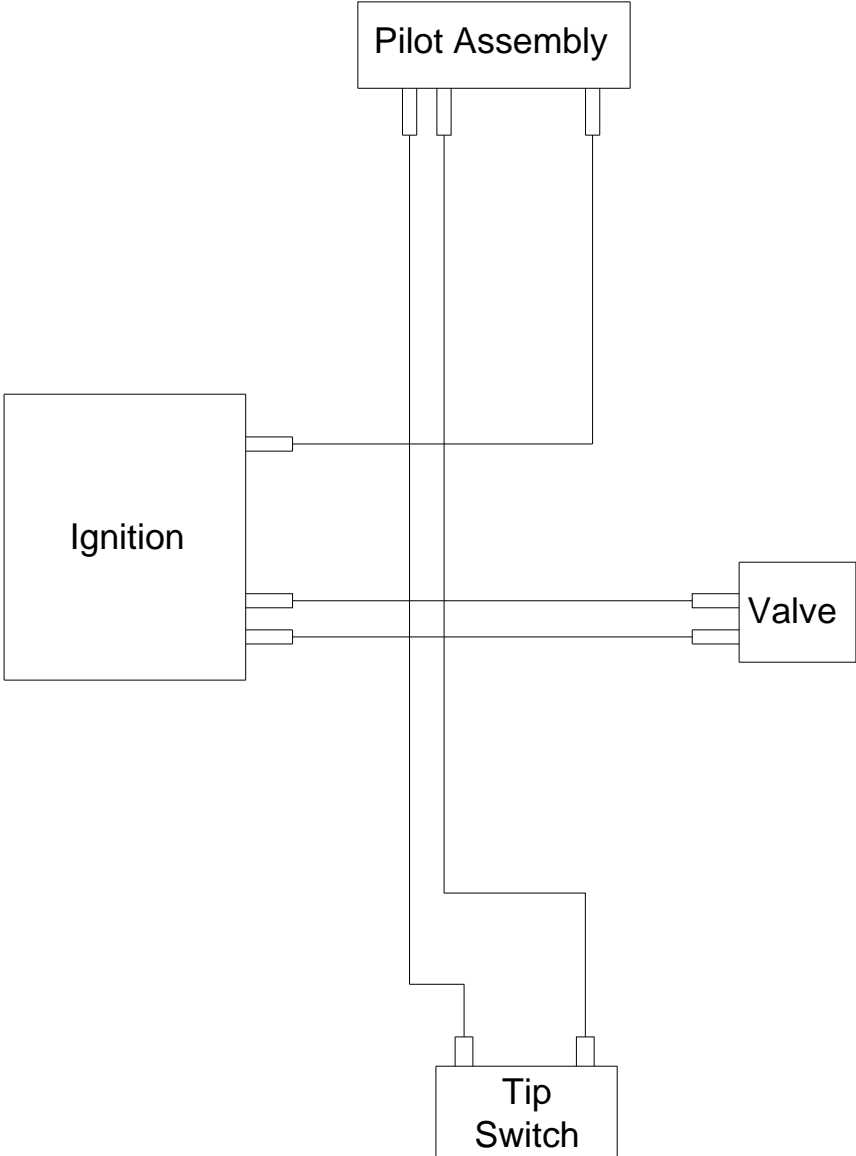
3. Flame lights but will not stay lit:
  - Be sure to hold knob in for one minute or longer to allow sensor to get hot.
  - Ensure there is no overpowering wind.
  - Ensure sense electrode is not corroded, is not grounded or has a cracked insulator. Electrode position is radially across face of burner.

## Replacement Parts

- Use only manufacturer recommended replacement parts.
- For a complete list of replacement parts contact your dealer.

# Maintenance and Trouble Shooting

## Functional Wiring Diagram



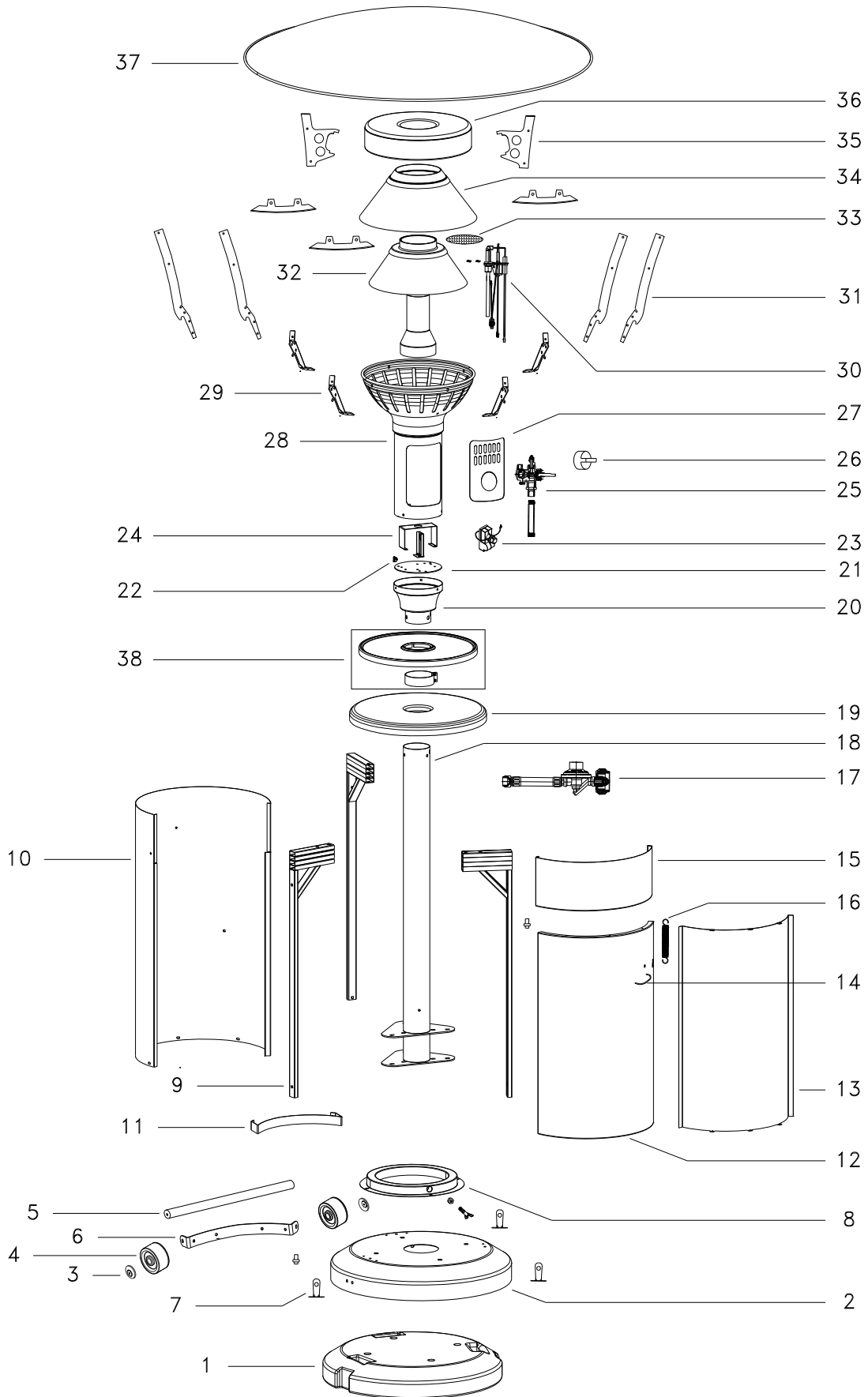
# Maintenance and Trouble Shooting

## Parts Reference

Item	Description	Part No.	Qty	Item	Description	Part No.	Qty
1	Weight	EH014	1	21	Valve & Burner Housing Base	ES101	1
2	Base Skin	ES087	1	22	Tip (Tilt) Over Switch	EE029	1
3	Wheel Dustproof Cover	-	2	23	Electronic Igniter	EE028	1
4	Wheel	EH015	2	24	Valve Support	ES102	1
5	Wheel Axle	ES091	1	25	Valve	EG024	1
6	Wheel Mounting Bracket	ES090	1	26	Knob	EH016	1
7	Base Bracket	ES088	3	27	Valve Housing Cover and wind guard Assy	ES104	1
8	Tank Base Retainer	ES089	1	28	Valve and burner Housing	ES103	1
9	Base Support Pillars	ES093	3	29	Shield Support Arm Base	ES105	4
10	Base Body	ES094	1	30	Pilot Assembly	EG026	1
11	Tank Saddle	ES092	1	31	Shield Support Arm	ES106	4
12	Door (Outer)	ES095	1	32	Main Burner	ES107	1
13	Door (Inner)	ES096	1	33	Venture and Burner Screen	ES108	1
14	Handle	EH017	1	34	Outer Shield	ES109	4
15	Door Filler	ES097	1	35	Shield Support Arm Fingers	ES110	4
16	Door Spring	EH018	1	36	Emitter Top and Side Ring	ES111	1
17	Regulator and Hose Assembly	EG025	1	37	Reflector	ES112	1
18	Pole and Pole Flange	ET003	1	38	Table (Optional)	ES099	1
19	Base Cover	ES098	1	39	Manual (with Battery) not shown	LT126	1
20	Pole Neck	ES100	1				

IR Energy reserves the right to make improvements to its product line without notice.

# Maintenance and Trouble Shooting



# Warranty

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## MODEL No. LHFS - INFRARED OUTDOOR PATIO HEATER WARRANTY

The Manufacturer warrants to the original owner that the product will be free of defects in material and workmanship for a period of 5 years from the date of purchase, for everything except the electronic control module, spark electrode, valve, regulator and sense electrodes which have a replacement warranty period of 1 year.

The Manufacturer's obligation under this warranty is limited to repair or replacement; FOB its facility, of the defective part. In the case of replacement parts the warranty period shall be the longer of the original warranty or a period of 12 months from the date of purchase. In no event shall the Manufacturer be liable for incidental expense or consequential damages of any kind.

This warranty does not cover any shipping, installation or other costs incurred in the repair or replacement of the product. No materials will be accepted for return without authorization.

This warranty will not apply if, in the judgment of the Manufacturer, the equipment has been improperly installed, unreasonably used, damaged or modified.

This warranty will not apply to damage to the product when used in corrosive atmospheres. No person is authorized to assume for the Manufacturer any other warranty, obligation or liability.

THE REMEDIES PROVIDED FOR IN THE ABOVE EXPRESS WARRANTIES ARE THE SOLE AND EXCLUSIVE REMEDIES. NO OTHER EXPRESS OR IMPLIED WARRANTIES ARE MADE INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE.



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