PRISM

HARDSCAPES





Installation, Operation & Maintenance Manual



Model: PH-Ignite, PHI-21-G1, 12VAC Auto Burner Ignition System



WARNING! THIS APPLIANCE IS FOR OUTDOOR USE ONLY!



This manual should remain with the homeowner or parties responsible for operation.

WARNING!!



IF THESE INSTRUCTIONS ARE NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT, CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.

FOR YOUR SAFETY:

This product must be installed and serviced by a contractor or qualified equipment installer who is licensed or certified by the jurisdiction in which the product will be installed where such state or local requirements exists. In the event no such state or local requirement exists, the installer or maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation can create carbon monoxide gas and flue gases which can cause serious injury, property damage, or death. For installations in the vicinity of occupied/living spaces, as an additional measure of safety, Prism Hardscapes strongly recommends installation of suitable carbon monoxide detectors in the vicinity of this appliance and in any adjacent occupied spaces. Improper installation and/or operation may void the warranty.

DO NOT DISCARD THESE INSTRUCTIONS

CALIFORNIA PROPOSITION 65



This product can expose you to Chromium, which is known in the state of California to cause cancer, birth defects or other reproductive harm.

(for more information, go to: www.p65warnings.ca.gov)

WARNING: IMPROPER INSTALLATION, ADJUSTMENTS, ALTERATIONS, SERVICE OR MAINTENANCE MAY CAUSE SERIOUS INJURY OR PROPERTY DAMAGE.

PLEASE READ THOROUGHLY AND UNDERSTAND ALL THE CONTENTS OF THIS DOCUMENT BEFORE INSTALLING OR SERVICING THIS EQUIPMENT. FOLLOW ALL THE INSTRUCTIONS TO ENSURE PROPER SAFETY, APPLICATION AND OPERATION OF THE PRODUCT.

WARNING: DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND OR LIQUIDS IN THE VICINITY OF THIS OR OTHER APPLIANCES.

WARNING: THIS APPLIANCE IS ONLY FOR USE WITH NATURAL GAS OR PROPANE GAS ONLY. AT NO TIME ARE SOLID FUELS TO BE USED WITH THIS APPLIANCE.

A DANGER! THIS APPLIANCE CAN PRODUCE CARBON MONOXIDE WHICH HAS NO ODOR. USING THIS APPLIANCE IN AN ENCLOSED SPACE CAN KILL YOU. NEVER USE THIS APPLIANCE IN AN ENCLOSED SPACE, MOTORHOME/CAMPER, CAR OR HOME.

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

WHAT TO DO IF YOU SMELL GAS

- · Immediately switch off main gas supply.
- . Do not try to light any appliance.
- · Do not touch any electrical switch; do not use any phone in your building.
- · Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- · If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



WARNING



- The appliance/system may produce carbon monoxide which has no odor. Using this appliance/system in an enclosed space such as a motorhome, camper, car or home may result in death.
- Prism Hardscapes utilizes CSA certified components. Installation must conform to local codes, National Fuel Gas Code ANSI Z223.1/NFPA and/or National Fuel Gas Code.
- Appliance should be serviced annually by a professional gas technician certified in the United States by the National Fireplace Institute (NFI). Any parts that require replacement should be replaced only by a certified service professional using parts recommended by manufacturer.
- Do not alter any component or design of this unit as it may alter the operation.
- Fire feature is not intended for cooking. Do not place anything on or in fire feature.
- Never use fire feature in windy conditions.
- Do not reach across or touch hot surfaces or open flames.
- Do not ignite fire feature when media (rocks/glass) is wet. Doing so may cause media to crack and burst.
- It is important to inspect the fire feature before every use. Make sure there are no obstructions or combustible materials on or near unit.
- Wipe down fire feature surface before every use and immediately clean any spills or messes on or around it.
- Consistently check hoses and fittings for cracks, abrasions and leaks (at least once a month).
- Always keep children and animals away from fire feature.
- Use a designated fire pit or barbecue cover when not in use.

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! SAVE THESE INSTRUCTIONS. DO NOT DISCARD !

Section 1: IMPORTANT SAFETY INSTRUCTIONS

Important Safety Instructions pertain to a risk of fire, electrical shock or injury to persons or animals in the vicinity of this product.

Read and follow all instructions.

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

A DANGER

A RISK OF ELECTRICAL SHOCK OR ELECTROCUTION. This product

must be installed by a licensed or certified electrician in accordance with the National Electrical Code® and applicable local codes and ordinances. In Canada, the Canadian Electrical Code and all applicable local codes and ordinances must be adhered to. Improper installation will create an electrical hazard, which could result in death or serious injury to users, installers, or others due to electrical shock, and may also cause damage to property. Read and follow the specific instructions below.

WARNING

⚠ Before installing this product, read and follow all warning notices and instructions accompanying this product. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage.

For additional free copies of these instructions, call Prism Hardscapes Technical Support at 951-600-1123 (USA)

ATTENTION INSTALLER

This manual contains important information about the installation, operation, and safe use of this product. This information should be given to the owner/operator of this equipment.

AWARNING: RISK OF ELECTRICAL SHOCK OR ELECTROCUTION!

Improper use or installation could result in serious injury or death. This product is only available for 12-volt AC power. For supply connections, use only an isolating low voltage power supply with ungrounded output, evaluated and listed by a Nationally Recognized Testing Laboratory (NRTL).

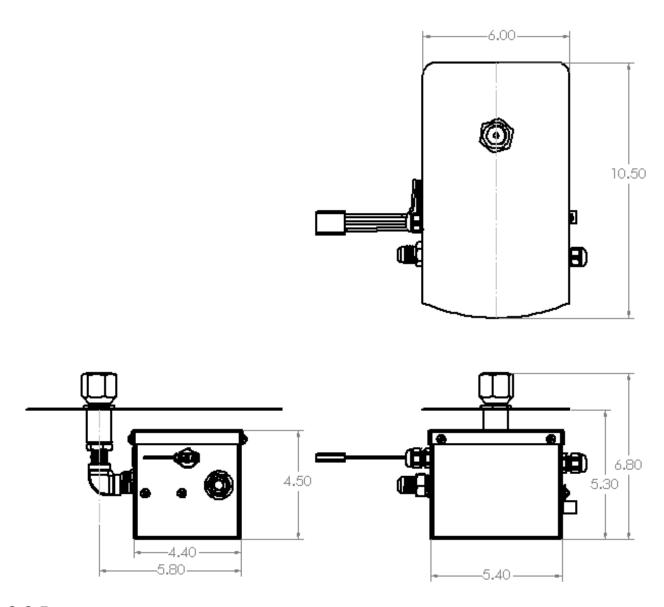
THIS APPLIANCE, WHEN INSTALLED, MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70, IF APPLICABLE.

Section 2: GENERAL DESCRIPTION

2.1 System Overview

This manual provides instructions for installing, operating and replacing this product.

2.2 Product Dimensions



2.3 Features

- Electronic Ignition for fast & convenient fire feature lighting
- Electronic flame sensing for instant flame safety & monitoring

- All components used within this appliance are CSA Certified
- This product is designed and assembled to comply with ANSI Z21-97 (2017)
- Operates on 12 Volts AC and complies with NEC 2014 Article 680. Can be installed within 5 feet of pool water
- Operates with a Hot Surface Ignition System with robust construction and reliable ignition source
- Potted electronics for moisture resistance and reliable operation
- Pilot burner wires are made of hi temperature material to withstand temperatures up to 450 degrees Centigrade (UL 5335/5107)
- Internal electronics are CSA Certified to Z 21.20-2014
- Operating temperatures between -20 F to 185 F
- Weatherproof stainless-steel construction with waterproof connectors

A WARNING

Improper installation or maintenance can cause nausea or asphyxiation from carbon monoxide from flue gases which could result in severe injury, or death. For installations that may be close to occupied or living spaces, as an additional measure of safety, Prism Hardscapes strongly recommends the installation of suitable Carbon Monoxide detectors in the vicinity of this appliance and in any adjacent occupied spaces.

2.4 Gas & Electric Requirements

INPUT VOLTAGE	120 VAC/60 HZ to transformer (not provided for pool applications)		
OUTPUT VOLTAGE	(output from transformer to appliance)	12 VAC/60 HZ , 5000 mA min	
GAS TYPE	Natural Gas	Propane Gas	
GAS PRESSURE	7 inches Water Column	11 inches Water Column	
GAS INPUT FLOW	85,000 BTU/HR	85,000 BTU/HR	
RECOMMENDED CLEARANCES TO COMBUSTIBLE SURFACES -			
SIDES: 4 FT	TOP: 6 FT		

Note: Check with your gas supplier to verify gas flows and pressures available at the location of your installation. In many cases utility companies will install larger meters at no charge to accommodate larger flows. Have your professional installer verify that you have the correct capacity pipe for proper operation.

⚠ WARNING - THIS PRODUCT OPERATES WITH 12 AC INPUT. DO NOT ATTEMPT TO CONNECT 120 VAC DIRECTLY TO THE APPLIANCE FOR IT WILL PERMANENTLY DAMAGE IT.

2.5 Product Contents

PART NAME	QTY
BURNER& BURNER PLATE	1
PILOT ASSEMBLY (PILOT BURNER, IGNITOR, SENSOR HOOD)	1
IGNITION CONTROL BOX	1
HEAT SHIELD	1
HEAT SHIELD JAM NUT	1
ORIFICE SET (BURNER & PILOT)	1
TRANSFORMER (120VAC/12VAC) (Not provided for pool applications)	1

Section 3: INSTALLATION DETAILS

3.1 Installation Requirement

- The mounting area should be prepared for electrical, gas and water (where applicable).
- The electrical, gas and water outlets or "stub outs" should be located within the center area of the base of the product.
- This product must be properly anchored to a solid mounting surface.
- The mounting surface should be level in all directions (axis X, Y & Z).
- All products must be located or fitted in an area with good drainage.
- All products must be vented. Make sure all openings at base or at burner area are left unobstructed.
- See overview of electrical wiring and piping in Section 6. Wiring & Layout Diagrams
- See Product Dimension (Section 2.2)

3.2 Initial Set-up

- 1. The fire feature will require both gas and electrical power.
- 2. Make sure gas and electric is turned off before installing pipes and wires.
- 3. Install the control panel and gas piping as shown in the diagrams below (Section 3.3).
- 4. Internal gas lines must be clean and free from any dirt, debris, or contamination.

 Note: Piping and fire bowl/ fire pit construction is different for natural gas and propane gas.
- 5. The gas piping and electrical conduit must be installed underground between the control panel/gas meter and the fire feature. Please consult with gas professional for proper gas pipe and fitting sizing. Using smaller piping over long lengths will result in a diminished flame due to pressure drop/piping resistance.
- 6. Maintain good piping practice by keeping pipe length and elbows to a minimum to eliminate unnecessary pressure drops.
 - **IMPORTANT**: Corrugated flex gas lines should not be used underground as permanent piping. Rigid pipe should always be used for permanent installation.
- 7. The gas piping must be reduced to 3/4" pipe at the fire feature with a means to shut off the gas supply from the gas meter.
- 8. Install a ¾" to 1/2" reducer at the fire feature "stub-out" riser. The gas and electric risers should not be more that 3" to 4" above the installation surface.
- 9. Install the 1/2" flare to ½" NPT fitting into the reducer fitting/pipe. You may place a manual shut off valve between the elbow and the reducer for future maintenance. Test gas piping for leaks

Note: The gas and electrical connection should be located at or near the center of each fire blow/ fire pit. For the electrical, you will need 2 wires and a ground to the appliance.

10. Install wiring (14 or 16 ga) underground between the control panel and the burner assembly. DO NOT USE BELL OR SPRINKLER WIRE. Lower gauge wire is not capable of carrying the current needed to operate the appliance. Wire per the electrical diagram Section 6. The appliance should be wired to a switch or dry contact on the 120 VAC side of the transformer.

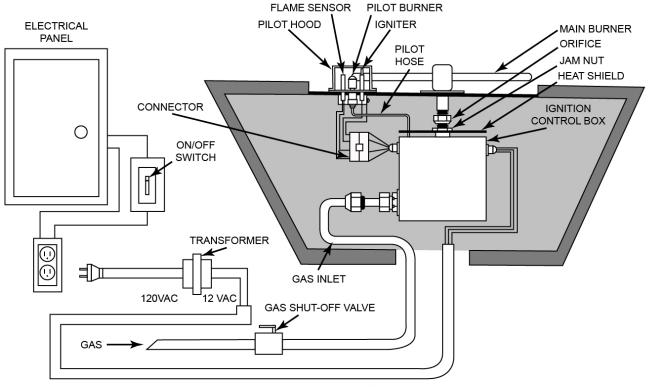
NOTE: A light switch, emergency switch, relay contact, or mechanical timer should always be installed on the 120 VAC side of the transformer to operate the fire feature. 12 VAC side may be wired as far as 50 feet away from the transformer using 14 gauge wire.

- 11. Make sure the mounting surface is level before installing the fire feature into position.
- 12. Place the fire feature into position. Make sure piping is centered properly
- 13. Anchor the fire feature such that it is secured and does not move.
- 14. Take the 1/2" flex hose (provided) and tighten to the flare fitting from the supply line. Do not kink or make a tight radius bend on the gas hose as it may restrict the flow of gas.
- 15. Make sure the fire feature has a way to drain water. Providing good drainage is critical. If you are installing a fire bowl and it is paced on a column, make sure the bowl is anchored properly and the electrical and gas pipe hole is sealed such that water cannot penetrate the coping surface under the bowl and will flow freely away and out to the edges.

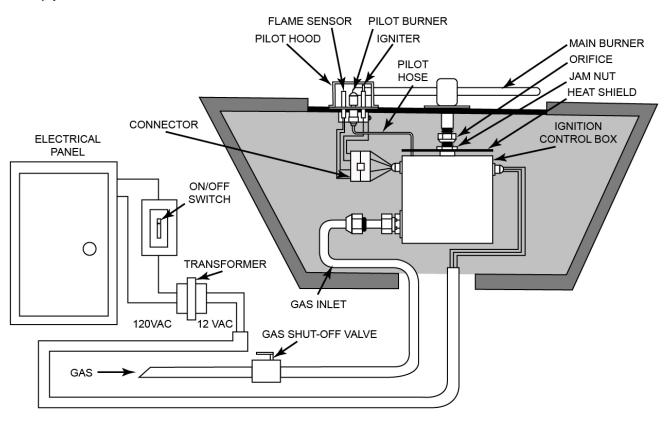
3.3 Wiring Diagrams

All gas set-up and installation should be done by a licensed gas professional. All electrical/wiring set-up and installation should be done by a licensed electrician/contractor.

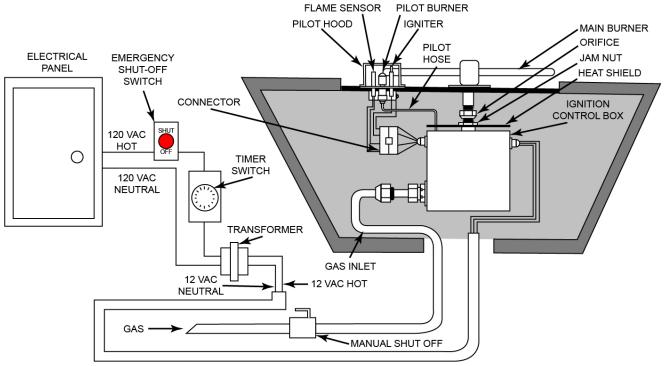
Type 1 Installation: Plug-in Transformer to electrical switched outlet



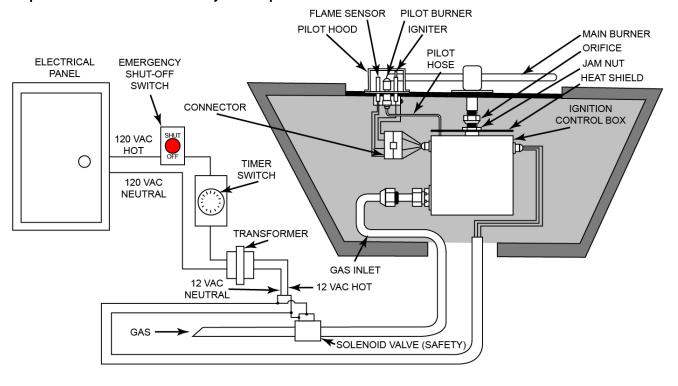
Type 2 Installation: Hard-wired Transformer to electrical switched outlet



Optional Timer Setup



Optional Timer & Safety Setup

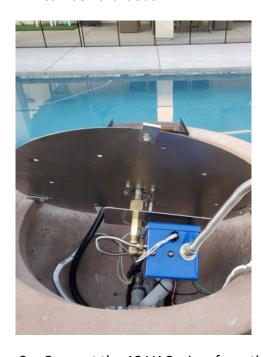


3.4 Installation

INSTALLATION SHOULD BE DONE BY A QUALIFIED GAS SERVICE PROFESSIONAL.

3.4.1 Installing the burner and control box

- The fire feature will come fitted with a burner, igniter, and control box. The burner
 and control will need to be connected to the gas and electrical lines supply lines.
 Make sure you have the correct orifices, on the pilot and the burner inlet for the gas
 you are using. You must use the proper orifices for natural gas or propane gas for
 both the pilot burner and the main burner. Please see Section 3.5 below for changing
 gas orifices.
- 2. Lift the burner and pan from the fire bowl or fire pit. Connect the flexible gas hose to the inlet flare fitting from the gas supply to flare fitting on the inlet of the control box. Use a wrench and tighten the hose to the fittings to insure they are tight and do not leak gas. If this fitting is not tightened correctly, it will leak and potentially ignite and can be hazardous.

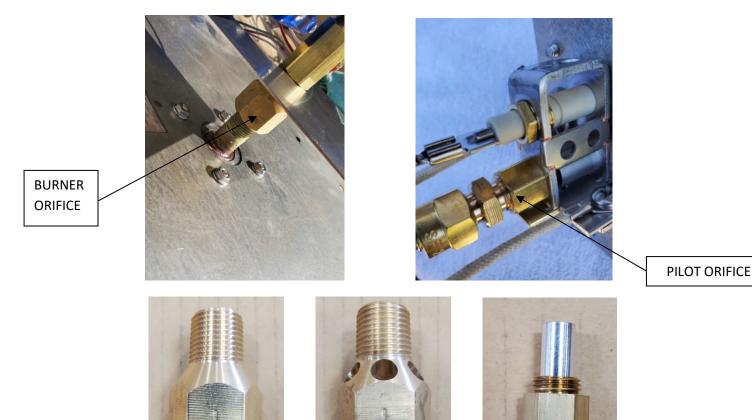




- 3. Connect the 12 VAC wires from the control box to the 12 VAC electrical wires coming out of the conduit (Note: these wires are coming from the supply voltage transformer). Use wire nuts to connect each wire to the control box in the fire feature. Connect the copper ground wire to the ground/bonding lug on the side of the control box.
- 4. You may now turn on the gas to the unit. Make sure there are no leaks at the gas fitting.
- 5. You can now lower the burner and pan onto the bowl or fire pit. The pan will sit on the inner ledge of the fire bowl or fire pit.
- 6. You are ready to power on the appliance.

3.5 Replacing Gas Orifice

There are 2 orifices. One is located at the base of the pilot burner and the other is located at the end of the main burner pipe (see pictures below). Each orifice is specific for the fuel that will be used (Natural Gas or Propane Gas).



Turn off the electric and gas supply to the fire feature.

BURNER ORIFICE

NATURAL GAS

2. Remove any fire glass or fire media that is on top of the burner plate. Once removed, unscrew the 2 screws holding the pilot/igniter assembly to the support plate.

PILOT ORIFICE

3. Pull up the burner and support plate and turn over exposing the bottom components.

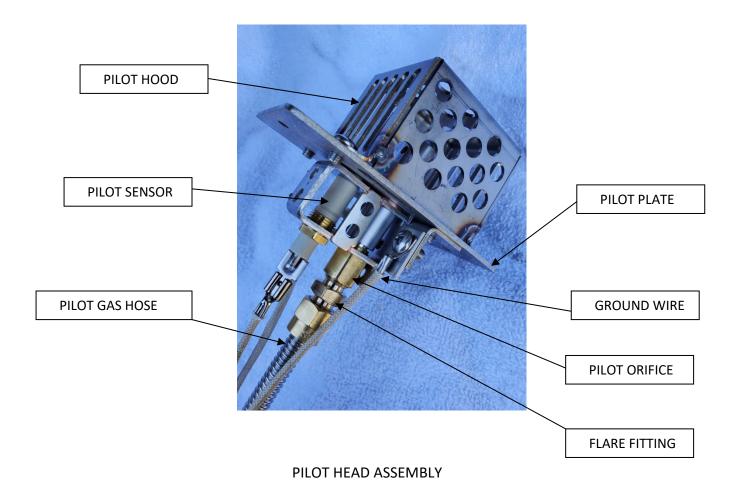
BURNER ORIFICE

PROPANE GAS

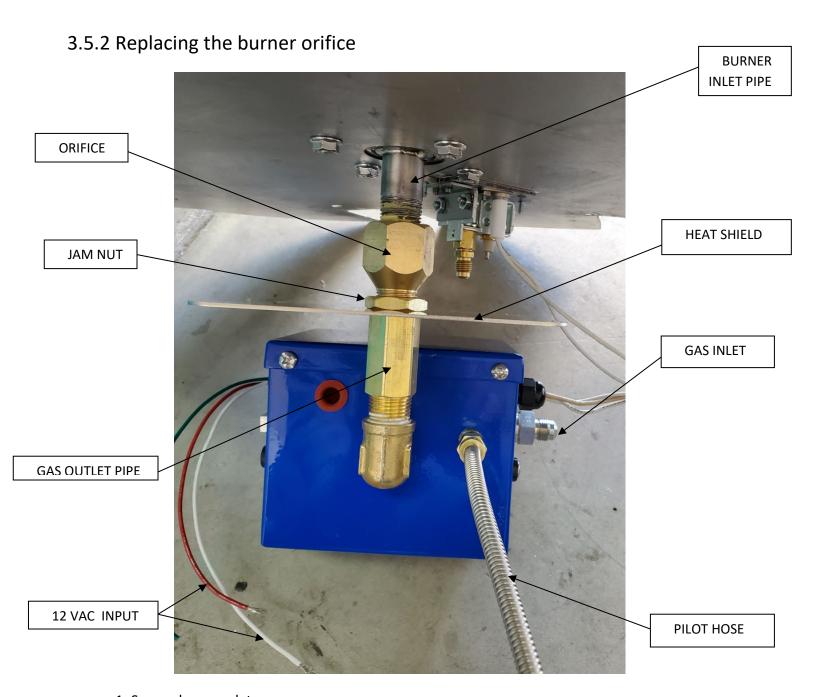
- 4. Unplug the 4-pin connector from the control box to the pilot assembly.
- 5. Disconnect the flexible pilot gas hose from the control box.
- 6. From the top of the burner support plate, pull up and remove the pilot assembly.

You are now ready to replace either or both orifices.

3.5.1 Replacing the pilot orifice



- 1. Disconnect the flexible pilot gas hose from the pilot. You will need to use 2 wrenches to do this. Hold the flare fitting with one wrench and remove the Flexible pilot hose connection with the other. Be careful not to put pressure on the ceramic flame sensor. Damaging the flame sensor will render the flame sensor inoperable.
- 2. Secure the pilot orifice and then remove the flare fitting from the pilot assembly.
- 3. Remove the pilot orifice from the pilot assembly and replace with the new one.
- 4. Hand- tighten the new orifice until seated. Use wrench to secure but do not over-tighten.
- 5. Hand-tighten the flare fitting until snug with wrench.
- 6. Take flexible pilot hose and tighten onto the flare fitting. Once snug, use wrench to tighten the hose fitting.



- 1. Secure burner plate.
- 2. Make sure pilot assembly has been disconnected and removed.
- 3. Use wrench on burner orifice and unwind the control box counter-clockwise until the control box separates from the burner pipe.
- 4. Place the control box on a flat surface and firmly hold.
- 5. Use wrench and remove loosen the jam nut. With a wrench, remove the burner orifice from the control box outlet pipe. Be careful of the heat shield as it will come off once the orifice is removed.

6. Remove the brass jam nut from the orifice.



- 7. Place jam nut onto the new orifice and thread it until it can no longer be turned.
- 8. Place pipe thread sealer onto the new orifice threads covering the last 3 threads well.
- 9. Place the heat shield over the control box outlet pipe and begin threading the orifice into place. Tighten orifice with wrench until secure.



10. Position the heat shield and tighten the jam nut by hand until it holds the heat shield in place.

11. Using a wrench, tighten the jam nut until the heat shield is firmly secured.



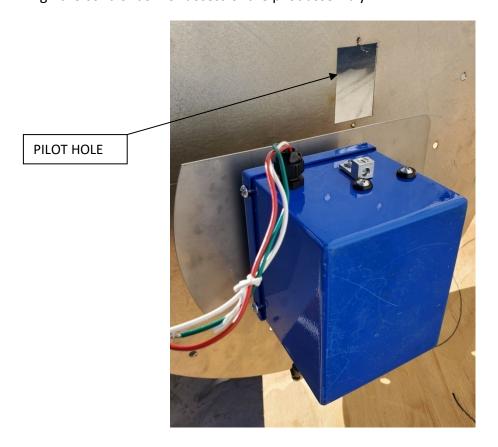
12. Place pipe thread sealer onto the burner pipe.



13. Place the control box outlet into the burner pipe and turn clockwise until tight.



14. Align the control box for access of the pilot assembly.



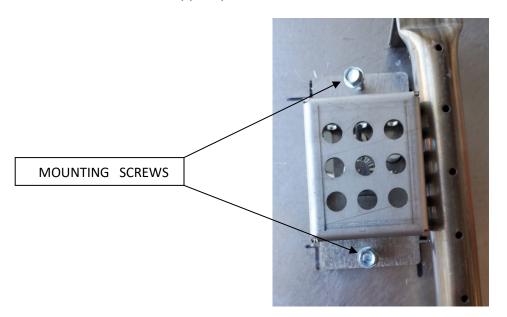
3.5.3 Final Burner and Pilot Assembly

1. From the top of the burner plate, insert the pilot connector and hose through the pilot hole on the plate. Make sure the slotted side of the pilot hood is facing the burner.

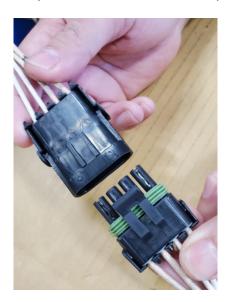




2. Align the pilot plate mounting holes and secure the 2 mounting screws through the pilot plate to the burner support plate.



3. Turn over the burner plate to expose the bottom side. Take the 4-pin male connector from the pilot/igniter assembly and connect it to the matching 4-pin female connector from the control box. Push firmly to make sure it clicks into position.





4. Take the flexible stainless steel pilot hose and connect it to the control box fitting. Secure with wrench but be careful not to over-tighten as it may damage the brass thread.





5. Attach the gas supply flex hose to the control box gas inlet fitting and secure with wrench.



- 6. Seat the burner plate onto the fire feature.
- 7. Turn on the gas to the unit.
- 8. Test to make sure the system lights. Turn on the switch to ignite the fire feature. Once it proves to ignite, turn the system off and wait for it to cool.
- 9. Place fire glass or fire media onto the plate as described in Section 4 below.

Section 4: PRODUCT SETUP & OPERATION

4.1 Media

- 1. Place fire glass or fire media onto the burner plate. Do not over fill the support plate area.
- 2. Cover the burner such that it cannot be seen. Leave the pilot hood open and do not cover as it needs air to operate properly.



- 3. Spread the fire media evenly over the burner.
- 4. Turn the system on and make sure it lights and the flames come through the fire media.
- 5. Spread the fire media such that the flames are not restricted and will ignite easily.
- 6. If you need to move or reposition the fire media, please turn off the ignition system and wait for the media to cool.

4.2 Operation

PLEASE NOTE: THIS SYSTEM REQUIRES BOTH GAS AND ELECTRIC TO BE INSTALLED FOR PROPER OPERATION. MAKE SURE AN ELECTRIC SWITCH IS INSTALLED TO TURN THE SYSTEM ON AND OFF.

Make sure to open the manual gas valve. Turn on the power switch to the unit. After 3 seconds, the igniter will begin to glow red. Shortly after this (5 seconds), the pilot burner will then ignite. The igniter will stay lit for 6 to 8 seconds to prove there is a flame and then ignite the main burner. The igniter will then go off and the flame will continue as long as the flame is present and can be sensed by the flame sensor.

Note: Wind gusts may displace the flame away from the flame sensor such that the system will shut down for 7 seconds and then re-start the firing sequence.

This system will try 3 times to light the system. If it fails to ignite after 3 trials, it will lock out (shut down) and will need to be reset by turning the power off and then on again.

Do not operate in rainy conditions as the flame will not operate optimally.

Always turn off your system once it is finished being used. Never leave the fire feature unattended when in use.

Never cover the fire feature until it has cooled down.

It is recommended to cover your fire feature if it is going to be out of use for long periods of time. This will help maintain a long and useful life to enjoy.

Note: If this is the first time you are turning on the system, there will be air in the gas lines and will need to be purged. This will require the system to be activated and cycled several times until all the air is removed for the gas lines. This means the system will require resetting several times until it ignites properly.

4.2.1 Lighting Instructions

ALWAYS WAIT 5 MINUTES BEFORE EACH RELIGHTING

- 1. Apply power to appliance
- 2. Wait 20 seconds for system to ignite properly
- 3. If appliance does not ignite, make sure gas is on.
- 4. If appliance fails to ignite after 3 trials, turn off power and gas.

Section 4.3: Maintenance

It is recommended to frequently check your fire feature from foreign objects within the fire area. It is not recommended for use with wood, wood chips, or other combustible fuels. If they are on the burner area, they must be removed before lighting.

Make sure the burner and pilot are clear from any foreign objects such as dead insects, spider webs, or other objects that may cause ignition problems.

Always make sure all fittings are tightened.

The pilot area may be vacuumed to remove debris or excess soot. After cleaning turn on the unit to make sure it ignites properly.

Section 5: TROUBLESHOOTING

If you are experiencing trouble with your fire feature, contact your installation professional to check the following:

- 1. System does not ignite
 - a. Check that there is power. Circuit breaker may be tripped or turned off.
 - b. Make sure transformer is delivering 12 Volts AC. If not, replace the 120 VAC to 12 VAC transformer.
 - c. Make sure transformer wires are not cut or broken.
 - d. Check that gas is on at the supply and at the shut-off valve.
 - e. Check that igniter turns red when switch is on. If not, igniter may be broken and needs replacement.
 - f. If igniter turns red but does not ignite the pilot burner, orifice may be plugged and needs cleaning or replacement
- 2. Pilot flame ignites but main burner does not.
 - a. Control box will have to be serviced.
- 3. System turns on but shuts off after a few seconds
 - a. Ground connection may be faulty. Check ground connection to pilot burner.
- 4. Orifice is clean but still does not get gas
 - a. Gas supply may be plugged with water or other debris and will need to be vacuumed out to clear the supply pipe.
- 5. System turns on and stays on for a while but then turns off.
 - a. System may be over heating. Check that burner plate and burner is over filled with media.
 - b. Make sure lower vents are clear.
 - c. System may have been shut down due to high wind pressure.

Section 6 Warranty

Prism Hardscapes LLC offers a 2-year limited warranty against manufacturer defects. Prism Hardscapes will repair or replace product which has been proven to be defective in workmanship and/or material. If unit is confirmed defective and is not repairable by a qualified Prism Hardscapes representative, the unit will be replaced FOB PRISM HARDSCAPES facility. The buyer must provide proof of purchase along with date of delivery to the end user and arrange shipping associated with the replacement of the unit. Prism Hardscapes will not be responsible for any defects resulting from misuse, user error, installation error, abuse, repair or alteration. The use of wood or fuels other than those specified for use with this unit by Prism Hardscapes will void warranty immediately. Under no circumstances will Prism Hardscapes be liable for incidentals or consequential damage resulting from defective products. This warranty is Prism Hardscapes' sole warranty, all others expressed or implied whether of merchantability, fitness of purpose or otherwise, are therefore disclaimed by Prism Hardscapes. Prism Hardscapes is not responsible for any injury or mishap related to misuse, abuse, or lack of judgment in choosing fire display locations.

Trouble Shooting or Repair/Replacement Emails:

- tech-support@prismhardscapes.com
- tee@prismhardscapes.com

Please note this product requires seasonal maintenance, including cleaning of pilot components and sensors. Hot surface ignitor not covered under warranty.



REV 05312022

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We believe in spaces that are designed for living, making memories, and enjoying life.

prismhardscapes.com

PRISM

951-600-1123