

USER MANUAL FOR: CFP20, BI16, CFP30, BI28, CFP2424, CFP1224, BI719, CFP1242, BI737, CFP1264, BI757, CFP1272, BI766, CFP1284, BI778, CFP1296, BI790, CFP12108, BI7102, CFP12120, BI7114 AND CUSTOM LINEAR BURNERS

## ⚠ CAUTION ⚠

- Important operating instructions included.
- Read, understand, and follow these instructions for safe installation and operation.

**INSTALLER: Leave manual with the appliance.**  
**CONSUMER: Retain this manual for future reference.**



## ⚠ DANGER ⚠

### IF YOU SMELL GAS:

- Shut off gas to the appliance.
- Extinguish any open flame.
- If odor continues, leave the area immediately.
- After leaving the area, call your gas supplier or fire department.

Failure to follow these instructions could result in fire or explosion, which could cause property damage, personal injury or death.

## ⚠ WARNING ⚠

### FOR OUTDOOR USE ONLY.

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

## ⚠ WARNING ⚠

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

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

## 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, car or home.

## ⚠ WARNING ⚠

IF THE INFORMATION IN THIS INSTRUCTION MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE.

**⚠ DANGER: FLAMMABLE GAS UNDER PRESSURE.**  
**LEAKING LP-GAS MAY CAUSE A FIRE OR EXPLOSION IF IGNITED**  
**CAUSING SERIOUS BODILY INJURY OR DEATH.**  
**CONTACT LP GAS SUPPLIER FOR REPAIRS, OR DISPOSAL OF A**  
**CYLINDER OR UNUSED LP-GAS.**

**⚠ WARNING: FOR OUTDOOR USE ONLY.\***

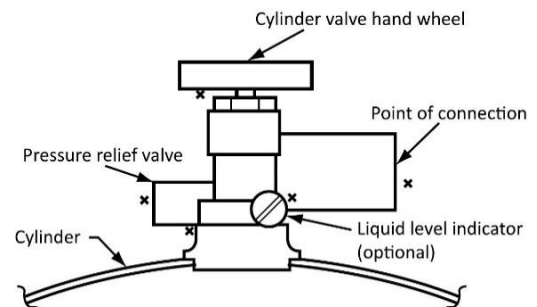
**DO NOT USE OR STORE CYLINDER IN A BUILDING,**  
**GARAGE, OR ENCLOSED AREA.**

**⚠ WARNING:**

- Know the odor of LP-gas. If you hear, see, or smell leaking LP-gas, immediately get everyone away from the cylinder and call the Fire Department. Do not attempt repairs.
- Caution your LP-gas supplier to:
  - Be certain cylinder is purged of trapped air prior to first filling.
  - Be certain not to over fill the cylinder.
  - Be certain cylinder requalification date is checked.
- LP-gas is heavier than air and may settle in low places while dissipating.
- Contact with the liquid contents of cylinder will cause freeze burns to the skin.
- Do not allow children to tamper or play with cylinder.
- When not connected for use, keep cylinder valve turned off. Self-contained appliances shall be limited to a cylinder of 30 lb. capacity or less.
- Do not use, store or transport cylinder where it would be exposed to high temperatures. Relief valve may open allowing a large amount of flammable gas to escape.
- When transporting, keep cylinder secured in an upright position with cylinder valve turned off.

**WHEN CONNECTING FOR USE:**

- Use only in compliance with applicable codes.
- Read and follow manufacturer's instructions.
- Consult manufacturer's instructions concerning the cylinder connection provided with your appliance.
- Be sure the regulator vent is not pointing up.
- Turn off all valves on the appliance.
- Do not check for gas leaks with a match or open flame. Apply soapy water at areas marked "X". Open cylinder valve. If bubbles appear, close valve and have LP-gas service person make needed repairs. Also, check appliance valves and connections to make sure they do not leak before lighting appliance.
- Light appliance(s) following manufacturer's instructions.
- When appliance is not in use, keep the cylinder valve closed.



**DO NOT REMOVE, DEFACE, OR OBLITERATE THIS LABEL**  
**\*EXCEPT AS AUTHORIZED BY ANSI/NFPA 58**

**⚠ DANGER:** Do not store a spare LP cylinder under or near a barbecue grill, or other heat sources. NEVER fill an LP cylinder beyond 80% full: a fire causing death or serious injury may occur.

# Additional Warnings

This appliance is a *Decorative Outdoor Gas Appliance* for **OUTDOOR USE ONLY** and **MUST NOT** be used for cooking.

Install the burner system in an enclosure on a flat and stable surface in an outdoor location such as a patio or deck. This location must be adjacent to the gas supply line or propane gas supply. **DO NOT** locate the appliance where it will get excessively wet or submerged in water.

## WARNING

- Children and adults should be alerted to the hazards of high surface temperatures and open flames and should stay away to avoid burns or clothing ignition.
- Young children should be carefully supervised when they are in the area of the appliance.
- Clothing or other flammable materials should not be hung from appliance or placed on or near the appliance.
- Any guard, barrier or other protective device removed for servicing the appliance shall be replaced prior to operating the appliance.

## WARNING

Do **NOT** burn solid fuels in this gas appliance.

## WARNING

**NATIONAL  
FIREPLACE  
INSTITUTE®**



**CERTIFIED**

Installation and repair should be performed only by a qualified service person. More frequent cleaning and maintenance may be required as necessary. It is imperative that the burner, controls, and circulating air passageways of the appliance are kept clean.

The Outdoor GreatRoom Company™, LLC recommends the use of NFI Certified Gas Professionals.

## WARNING

### ASPHYXIATION RISK

- This gas appliance is for outdoor use in a well ventilated space.
- This unit must **NOT** be installed in an enclosed structure.

## WARNING

**DO NOT USE** this appliance if any part has been underwater. Have an authorized service technician inspect the appliance and replace any component in the control system or gas supply which has been underwater.

## WARNING

### SHARP EDGES

Wear protective gloves and safety glasses during installation.

## WARNING

Inspect appliance and components for damage. Damaged parts may impair safe operation.

Do **NOT** install damaged, incomplete, or substitute components.

Report damaged parts to your dealer.

## WARNING

The Outdoor GreatRoom Company™, LLC disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged components.
- Modification of the burner assembly.
- Installation other than as detailed in this manual.

Any such action may result in a fire or explosion causing property damage, personal injury, or death.

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# 1 APPLIANCE INFORMATION

## A. APPLIANCE CERTIFICATION

**MODEL:** ALL CRYSTAL FIRE® PLUS BURNERS & BURNER INSERTS

**TESTING AGENCY:** Underwriters Laboratories (UL LLC)

**TYPE:** Decorative Gas-Fired Outdoor Fireplace.

**STANDARD:** ANSI Z21.97-2017 / CSA 2.41-2017 *Outdoor Decorative Gas Appliances*

The Crystal Fire® Plus burner series has been tested in accordance to ANSI Z21.97-2017 / CSA 2.41-2017 and has been listed by Underwriters Laboratories (UL LLC) for installation and operation as described in these installation and operating instructions.

When the appliance is for connection to a fixed piping system, the installation must conform with local codes, or in the absence of local codes with *National Fuel Gas Code*, ANSI Z223.1 \* NFPA 54; *National Fuel Gas Code*; *Natural Gas and Propane Installation Code*, CSA B149.1; or *Propane Storage and Handling Code*, CSA B149.2, as applicable.

The 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; or the *Canadian Electrical Code*, CSA C22.1, if applicable.

## B. SPECIFICATIONS

| MODEL                 | ORIFICE SIZE |                  | STANDARD INPUT RATE          |                              |
|-----------------------|--------------|------------------|------------------------------|------------------------------|
|                       | PROPANE      | NATURAL GAS      | PROPANE                      | NATURAL GAS                  |
| CFP20 BI16<br>CFP2424 | #43 (Burner) | #30 (Burner)     | Low: 25K BTU/hr. (7.32 kW)   | Low: 25.5K BTU/hr. (7.47 kW) |
|                       | #52 (Valve)  | #43 (Valve)      | High: 55K BTU/hr. (16.12 kW) | High: 55K BTU/hr. (16.12 kW) |
| CFP1224 BI719         | #43 (Burner) | #30 (Burner)     | Low: 25K BTU/hr. (7.32 kW)   | Low: 25.5K BTU/hr. (7.47 kW) |
|                       | #52 (Valve)  | #43 (Valve)      | High: 55K BTU/hr. (16.12 kW) | High: 55K BTU/hr. (16.12 kW) |
| CFP1242 BI737         | #40 (Burner) | #20 (Burner)     | Low: 50K BTU/hr. (14.65 kW)  | Low: 50K BTU/hr. (14.65 kW)  |
|                       | #42 (Valve)  | No Valve Orifice | High: 65K BTU/hr. (19.05 kW) | High: 80K BTU/hr. (23.44 kW) |

The burner specifications listed above correspond to the factory standard configuration. Each of the above burners are able to operate at a higher input rate with a larger flame by purchasing and installing an optional upgrade orifice. See Maximum Rate information on Pg. 6 and Reference Materials on Pg. 33 for more information.

| MINIMUM INLET PRESSURE |                       | MAXIMUM INLET PRESSURE |                       | IDEAL INLET PRESSURE  |                      |
|------------------------|-----------------------|------------------------|-----------------------|-----------------------|----------------------|
| PROPANE                | NATURAL GAS           | PROPANE                | NATURAL GAS           | PROPANE               | NATURAL GAS          |
| 8.0 in. WC (2.0 kPa)   | 3.5 in. WC (0.87 kPa) | 14.0 in. WC (3.5 kPa)  | 10.5 in. WC (2.6 kPa) | 11.0 in. WC (2.7 kPa) | 7.0 in. WC (1.7 kPa) |

All Crystal Fire® Plus burners are approved for use in the Commonwealth of Massachusetts.

Approval Code: P1-0720-468



| MODEL                       | ORIFICE SIZE                            |                                       | MAXIMUM INPUT RATE  |   |
|-----------------------------|---|---------------------------------------|---|---|
|                             | PROPANE                                 | NATURAL GAS                           | PROPANE   | NATURAL GAS   |
| CFP20*<br>BI16*<br>CFP2424* | #36 (Burner)<br>#52 (Valve)             | #21 (Burner)<br>#43 (Valve)           | Low: 26K BTU/hr. (7.62 kW)<br>High: 73.5K BTU/hr. (21.5 kW)   | Low: 25.5K BTU/hr. (7.47 kW)<br>High: 77.5K BTU/hr. (22.12 kW)  |
| CFP1224*<br>BI719*          | #36 (Burner)<br>#52 (Valve)             | #21 (Burner)<br>#43 (Valve)           | Low: 25K BTU/hr. (7.32 kW)<br>High: 75K BTU/hr. (21.98 kW)    | Low: 25.5K BTU/hr. (7.47 kW)<br>High: 75.5K BTU/hr. (22.12 kW)  |
| CFP1242*<br>BI737*          | .125" (Burner)<br>#42 (Valve)           | #12 (Burner)<br>No Valve Orifice      | Low: 50K BTU/hr. (14.65 kW)<br>High: 100K BTU/hr. (29.30 kW)  | Low: 50K BTU/hr. (14.65 kW)<br>High: 100K BTU/hr. (29.30 kW)    |
| CFP1264<br>BI757            | .125" (Burner)<br>#42 (Valve)           | #12 (Burner)<br>No Valve Orifice      | Low: 50K BTU/hr. (14.65 kW)<br>High: 100K BTU/hr. (29.30 kW)  | Low: 50K BTU/hr. (14.65 kW)<br>High: 100K BTU/hr. (29.30 kW)    |
| CFP12120<br>BI7114          | .125" (Burner) (X2)<br>#42 (Valve) (X2) | #12 (Burner) (X2)<br>No Valve Orifice | Low: 100K BTU/hr. (29.30 kW)<br>High: 200K BTU/hr. (58.61 kW) | Low: 101.5K BTU/hr. (29.75 kW)<br>High: 200K BTU/hr. (58.61 kW) |
| CFP30<br>BI28               | .125" (Burner)<br>#42 (Valve)           | #12 (Burner)<br>No Valve Orifice      | Low: 50K BTU/hr. (14.65 kW)<br>High: 105K BTU/hr. (30.8 kW)   | Low: 50K BTU/hr. (14.65 kW)<br>High: 106K BTU/hr. (31.1 kW)     |
| CFP1272<br>BI766            | #42 (Burner) (X2)<br>#52 (Valve) (X2)   | #29 (Burner) (X2)<br>#43 (Valve) (X2) | Low: 50K BTU/hr. (14.65 kW)<br>High: 125K BTU/hr. (36.63 kW)  | Low: 50K BTU/hr. (14.65 kW)<br>High: 125K BTU/hr. (36.63 kW)    |
| CFP1284<br>BI778            | #39 (Burner) (X2)<br>#49 (Valve) (X2)   | #28 (Burner) (X2)<br>#25 (Valve) (X2) | Low: 75K BTU/hr. (21.98 kW)<br>High: 140K BTU/hr. (41.03 kW)  | Low: 75K BTU/hr. (21.98 kW)<br>High: 140K BTU/hr. (41.03 kW)    |
| CFP1296<br>BI790            | .109" (Burner) (X2)<br>#42 (Valve) (X2) | #21 (Burner) (X2)<br>No Valve Orifice | Low: 100K BTU/hr. (29.31 kW)<br>High: 165K BTU/hr. (48.36 kW) | Low: 100K BTU/hr. (29.31 kW)<br>High: 165K BTU/hr. (48.36 kW)   |
| CFP12108<br>BI7102          | #31 (Burner) (X2)<br>#42 (Valve) (X2)   | #19 (Burner) (X2)<br>No Valve Orifice | Low: 100K BTU/hr. (29.31 kW)<br>High: 180K BTU/hr. (52.75 kW) | Low: 100K BTU/hr. (29.31 kW)<br>High: 180K BTU/hr. (52.75 kW)   |

**\*The burners denoted with an asterisk are not setup standard from the factory to operate at their maximum gas consumption rate. In order to achieve the maximum gas consumption rate, an upgraded orifice must be purchased and installed. See Reference Materials on Pg. 33 for more information.**

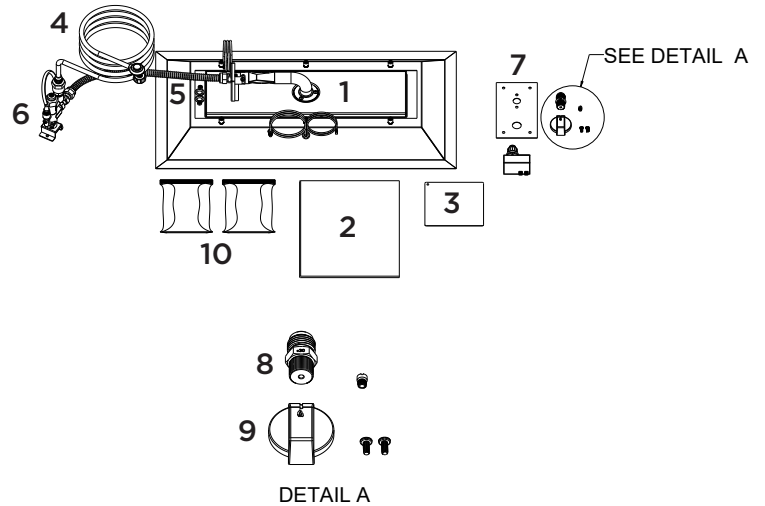
| MINIMUM INLET PRESSURE  |                          | MAXIMUM INLET PRESSURE   |                          | IDEAL INLET PRESSURE     |                         |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| PROPANE                 | NATURAL GAS              | PROPANE                  | NATURAL GAS              | PROPANE                  | NATURAL GAS             |
| 8.0 in. WC<br>(2.0 kPa) | 3.5 in. WC<br>(0.87 kPa) | 14.0 in. WC<br>(3.5 kPa) | 10.5 in. WC<br>(2.6 kPa) | 11.0 in. WC<br>(2.7 kPa) | 7.0 in. WC<br>(1.7 kPa) |

# 2

# GETTING STARTED

## A. INCLUDED ITEMS

1. Crystal Fire® Plus Burner
2. Crystal Fire® Plus Instruction Manual
3. UL Rating Label (attached to burner)



| #  | Included Item                               | CFP20<br>BI16 | CFP30<br>BI28 | CFP2424 | CFP1224<br>BI719 | CFP1242<br>BI737 |
|----|---|---------------|---------------|---------|------------------|------------------|
| 4  | 10' Regulator Hose                          | 1             | -             | 1       | 1                | 1                |
| 5  | 22 ½" Stainless Flex Line                   | 1             | 1             | 1       | 1                | 1                |
| 6  | Variable Control Safety Valve (VCSV) System | 1             | 1             | 1       | 1                | 1                |
| 7  | Control Panel                               | 1             | 1             | 1       | 1                | 1                |
| 8  | Natural Gas Conversion Kit                  | 1             | 1             | 1       | 1                | 1                |
| 9  | Control Knob and Screws                     | 1             | 1             | 1       | 1                | 1                |
| 10 | Number of Media Bags                        | 2             | 5             | 4       | 2                | 3                |

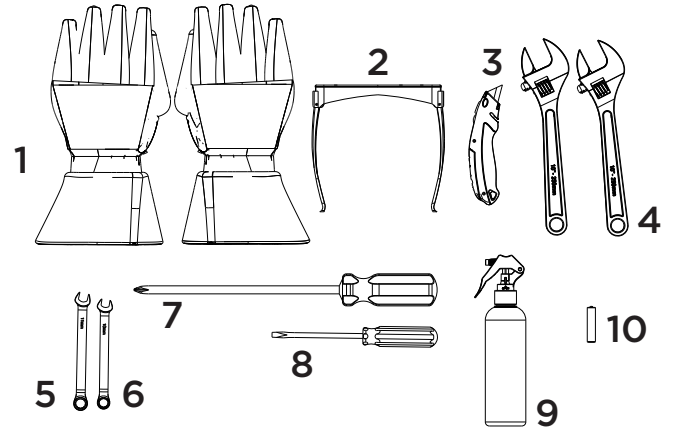
| #  | Included Item                               | CFP1264<br>BI757 | CFP1272<br>BI766 | CFP1284<br>BI778 | CFP1296<br>BI790 | CFP12108<br>BI7102 | CFP12120<br>BI7114 |
|----|---|------------------|------------------|------------------|------------------|--------------------|--------------------|
| 4  | 10' Regulator Hose                          | -                | -                | -                | -                | -                  | -                  |
| 5  | 22 ½" Stainless Flex Line                   | 1                | 2                | 2                | 2                | 2                  | 2                  |
| 6  | Variable Control Safety Valve (VCSV) System | 1                | 2                | 2                | 2                | 2                  | 2                  |
| 7  | Control Panel                               | 1                | 2                | 2                | 2                | 2                  | 2                  |
| 8  | Natural Gas Conversion Kit                  | 1                | 2                | 2                | 2                | 2                  | 2                  |
| 9  | Control Knob and Screws                     | 1                | 2                | 2                | 2                | 2                  | 2                  |
| 10 | Number of Media Bags                        | 4                | 5                | 5                | 6                | 7                  | 8                  |

**Burners not supplied with a regulator hose operate at gas consumption rates too high for a standard 20 lb. self-contained propane cylinder. Hard-piped installation is required.**



## B. TOOLS AND SUPPLIES REQUIRED

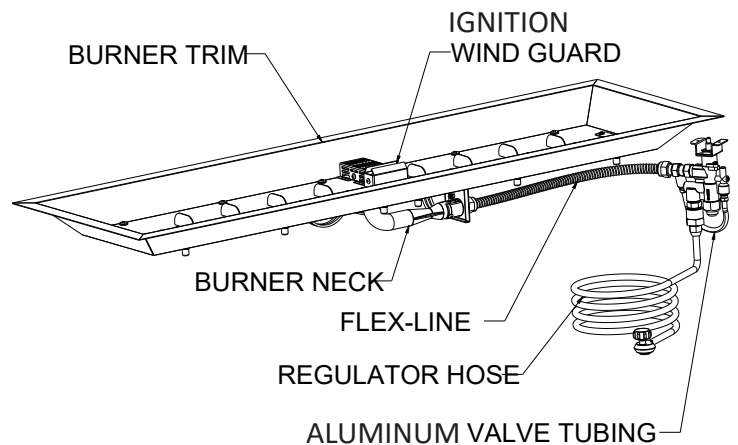
1. Work Gloves
2. Safety Glasses
3. Utility Knife (for opening packaging)
4. (2X) Adjustable Wrenches
5. 11mm Wrench (for NG conversion only)
6. 10mm Wrench
7. Phillips Screwdriver
8. Flat-Blade Screwdriver (for NG conversion only)
9. Corrosion-free Leak Test Solution
10. (1X) AAA Battery



## C. INSPECT THE APPLIANCE AND COMPONENTS

### What to inspect:

1. Burner
  - Look for bent or dented components.
2. Plumbing (Stainless steel flex-line and regulator hose)
  - Look for cracks and extreme bends or kinks.
3. Aluminum Valve Tubing
  - Look for cracks and extreme bends or kinks on aluminum tube.





# 3

## APPLIANCE CLEARANCE REQUIREMENTS

### A. SURROUNDING CLEARANCES

#### ⚠ WARNING ⚠

#### FIRE RISK

Follow all minimum clearance requirements. Failure to provide adequate clearance to combustible materials can result in property damage or loss of life.

Appliance should be installed in an enclosure in a location that meets the following criteria:

- Easy access to appliance control panel.
- Easy access to gas connections for service and maintenance.
- Does not restrict walkways around appliance and enclosure.
- Installed on solid and level surface.

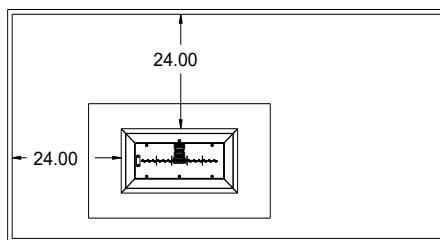
#### ⚠ WARNING ⚠

#### FOR OUTDOOR USE ONLY

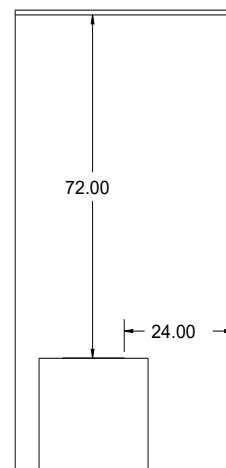
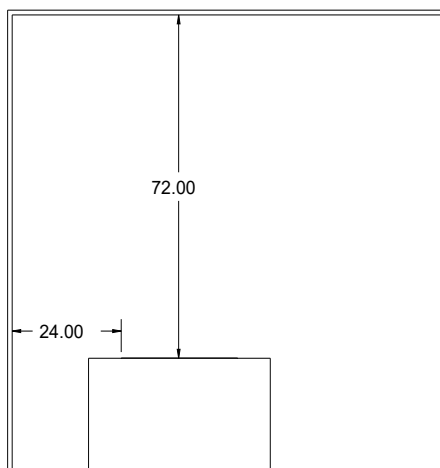
#### What qualifies an area as an outdoor space?

To qualify as an outdoor space, the area in which the appliance is installed must be no more restrictive than the following configurations:

- Walls on all four sides with no overhead cover.
- A partial enclosure with an overhead cover and two side walls. Walls can be parallel to each other or at right angles to each other.
- A partial enclosure that includes an overhead cover and three side walls where 30 percent of the surrounding side wall area is **permanently** open.



All Dimensions are in Inches



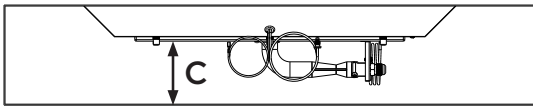
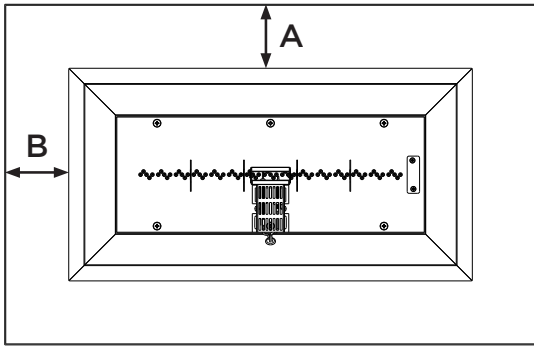
Burner model shown may not be the same model as your burner. Clearance requirement is 72" from top of burner to any overhead combustible materials and 24" from edge of burner trim to any combustible side walls. Burner Inserts (BI models) must follow the clearances for their corresponding CFP model.



## B. ENCLOSURE CLEARANCES FOR CFP MODELS

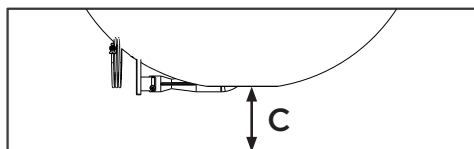
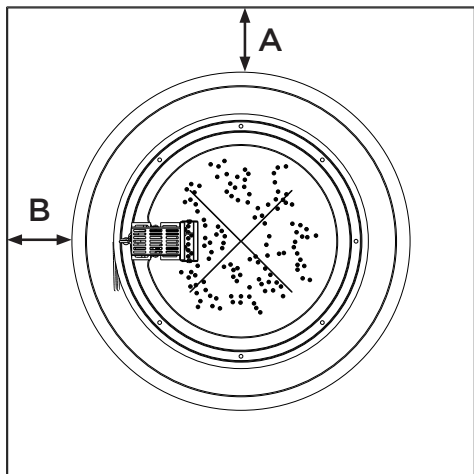
**⚠ WARNING ⚠**

Follow all minimum clearance requirements.  
Failure to provide adequate clearance to  
combustible materials can result in property  
damage or loss of life.



| Required Clearances to Combustibles |       |       |       |
|-------------------------------------|-------|-------|-------|
| LINEAR MODELS                       | A     | B     | C     |
| CFP1224                             | 4 in. | 4 in. | 4 in. |
| CFP1242                             |       |       |       |
| CFP1264                             |       |       |       |
| CFP12120                            |       |       |       |
| CFP1272                             |       |       |       |
| CFP1284                             |       |       |       |
| CFP1296                             |       |       |       |
| CFP12108                            |       |       |       |

| Required Clearances to Combustibles |       |       |       |
|-------------------------------------|-------|-------|-------|
| SQUARE MODELS                       | A     | B     | C     |
| CFP2424                             | 4 in. | 4 in. | 4 in. |

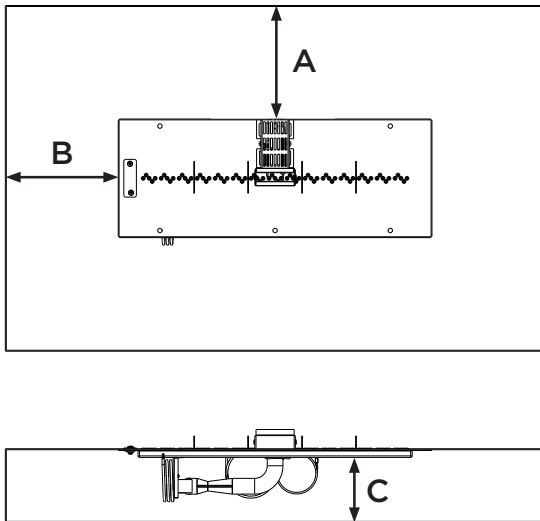


| Required Clearances to Combustibles |       |       |       |
|-------------------------------------|-------|-------|-------|
| ROUND MODELS                        | A     | B     | C     |
| CFP20                               | 4 in. | 4 in. | 4 in. |
| CFP30                               |       |       |       |

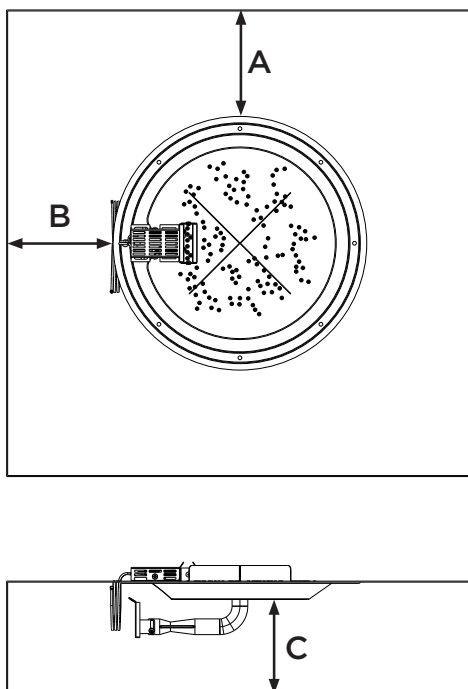
## C. ENCLOSURE CLEARANCES FOR BI MODELS

**⚠ WARNING ⚠**

Follow all minimum clearance requirements.  
Failure to provide adequate clearance to  
combustible materials can result in property  
damage or loss of life.



| Required Clearances to Combustibles |       |       |       |
|-------------------------------------|-------|-------|-------|
| LINEAR MODELS                       | A     | B     | C     |
| BI719                               | 7 in. | 7 in. | 4 in. |
| BI737                               |       |       |       |
| BI757                               |       |       |       |
| BI7114                              |       |       |       |
| BI766                               |       |       |       |
| BI778                               |       |       |       |
| BI790                               |       |       |       |
| BI7102                              |       |       |       |



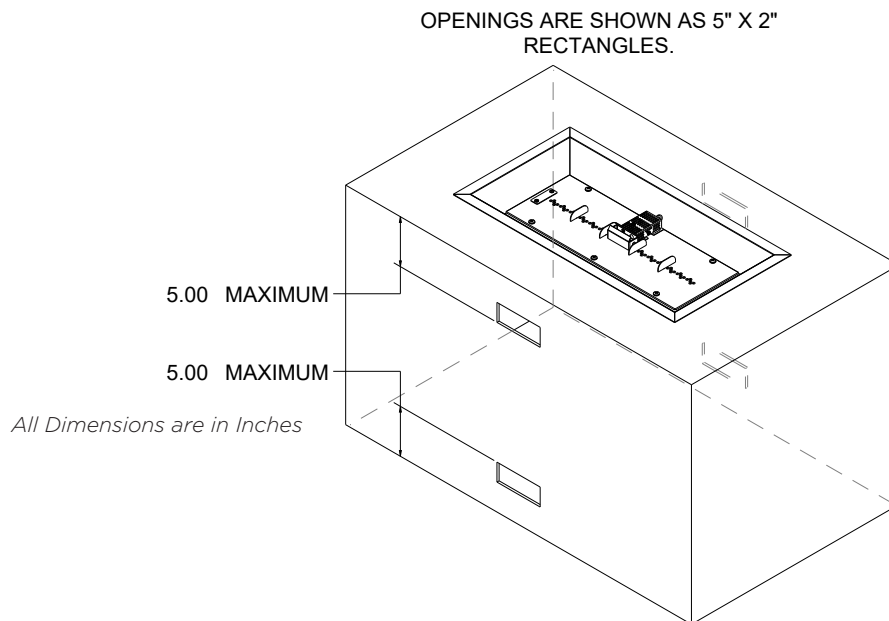
| Required Clearances to Combustibles |          |          |       |
|-------------------------------------|----------|----------|-------|
| ROUND MODELS                        | A        | B        | C     |
| BI16                                | 6.75 in. | 6.75 in. | 6 in. |
| BI28                                | 6 in.    | 6 in.    | 6 in. |

# 4

## ENCLOSURE DESIGN REQUIREMENTS

### A. SELF-CONTAINED PROPANE CYLINDER INSTALLATIONS

The Outdoor GreatRoom Company™ has vent blocks available for DIY landscape block projects as well as vent plates for other enclosures. See reference materials for more information.



#### MINIMUM VENTILATION REQUIREMENTS:

Two (2) openings of equal size on opposite sides of the enclosure. The bottom of these openings should be within 5 in. of the top of the enclosure and their total open area should be 1 in.<sup>2</sup> /lb. of stored propane. (20 in.<sup>2</sup> total for a 20 lb. propane cylinder or 10 in.<sup>2</sup> for each opening).

Two (2) openings of equal size on opposite sides of the enclosure. The top of these openings should be within 5 in. of the bottom of the enclosure and their total open area should be 1 in.<sup>2</sup> /lb. of stored propane. (20 in.<sup>2</sup> total for a 20 lb. propane cylinder or 10 in.<sup>2</sup> for each opening).

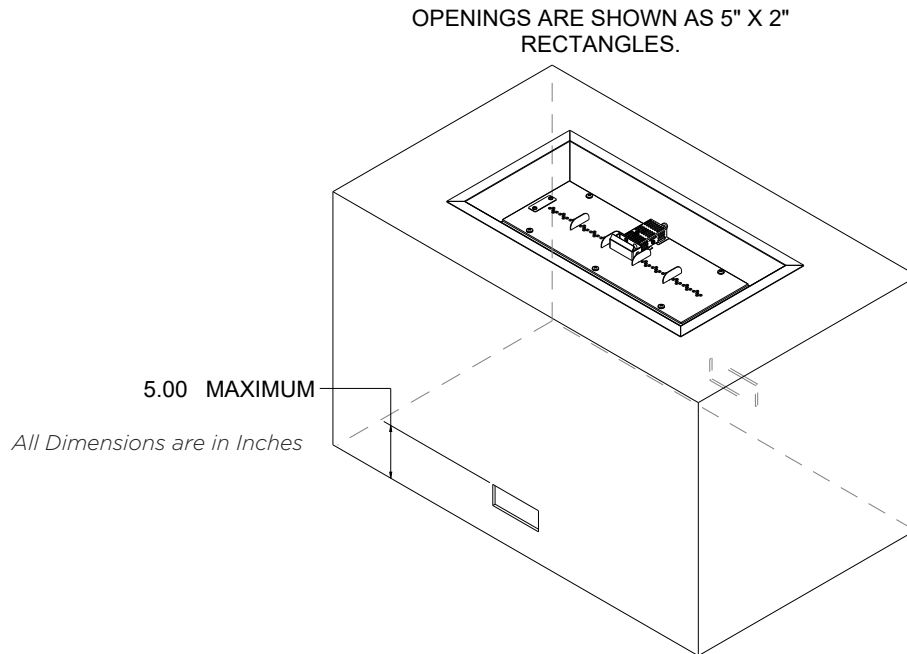
A 1/8 in. rod should be able to be passed through the openings in the vents. No screen or mesh should be used.

Enclosures built to house a self-contained propane cylinder must have ventilation at the top and bottom of the enclosure. This allows for quick dissipation of gas in the event of a leak, or in the event of venting from the tank when over-pressurized. Propane is denser than air and settles in low places. Ventilation also helps to prevent excessive condensation.

Burner model shown may not be the same model as your burner.

## B. HARD-PIPED PROPANE INSTALLATIONS

The Outdoor GreatRoom Company™ has vent blocks available for DIY landscape block projects as well as vent plates for other enclosures. See reference materials for more information.



### MINIMUM VENTILATION REQUIREMENTS:

Two (2) openings of equal size on opposite sides of the enclosure. The top of these openings should be within 5 in. of the bottom of the enclosure and their total open area should be 20 in.<sup>2</sup>

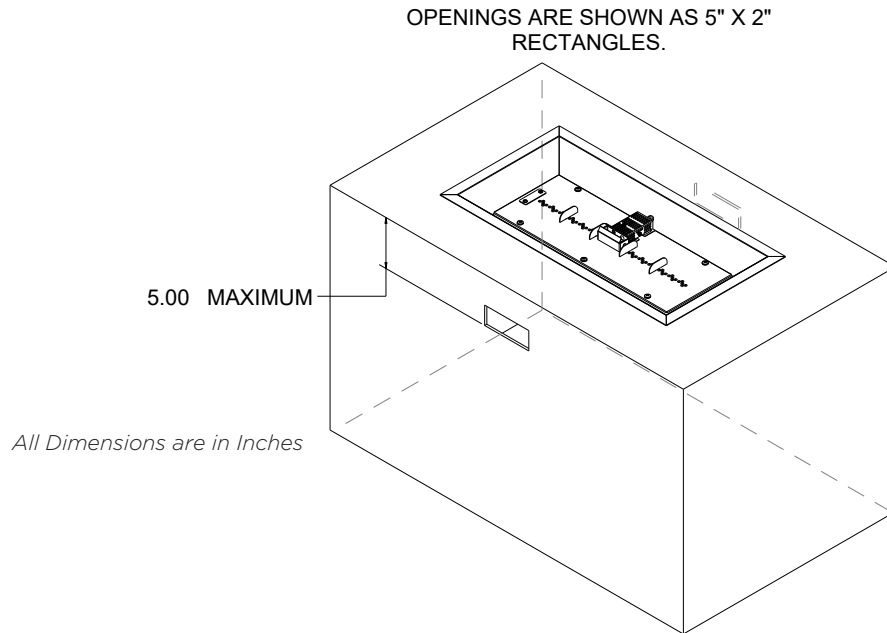
A 1/8 in. rod should be able to be passed through the openings in the vents. No screen or mesh should be used.

Enclosures built for hard-piped propane installations must have ventilation at the bottom of the enclosure. This allows for quick dissipation of gas in the event of a leak. Propane is denser than air and settles in low places. Ventilation also helps to prevent excessive condensation.

Burner model shown may not be the same model as your burner.

## C. HARD-PIPED NATURAL GAS INSTALLATIONS

The Outdoor GreatRoom Company™ has vent blocks available for DIY landscape block projects as well as vent plates for other enclosures. See reference materials for more information.



### MINIMUM VENTILATION REQUIREMENTS:

Two (2) openings of equal size on opposite sides of the enclosure. The bottom of these openings should be within 5 in. of the top of the enclosure and their total open area should be 20 in.<sup>2</sup>

A 1/8 in. rod should be able to be passed through the openings in the vents. No screen or mesh should be used.

Enclosures built for hard-piped natural gas installations must have ventilation near the top of the enclosure. This allows for quick dissipation of gas in the event of a leak. Natural gas is lighter than air and rises. Ventilation also helps to prevent excessive condensation.

Burner model shown may not be the same model as your burner.

# 5

## GAS SETUP AND INFORMATION



### WARNING:



#### FIRE AND EXPLOSION RISK:

##### VERIFY INLET PRESSURES

- High pressure may cause an over-fire condition.
- Low pressure may cause delayed ignition and explosion.
- Minimum pressure must be verified when ALL household appliances are operating.

AN APPLIANCE REGULATOR MUST BE INSTALLED UPSTREAM OF THE APPLIANCE FOR ALL PRESSURES ABOVE 14 IN. WC FOR LIQUID PROPANE AND ALL PRESSURES ABOVE 11 IN. WC FOR NATURAL GAS.

### A. FUEL TYPE

- Before making any gas connections, ensure the appliance being installed is compatible with the available gas type.
- All Crystal Fire® Plus burners come configured for use with a 20 lb. self-contained propane cylinder. A natural gas conversion kit is included with the burner.

### B. GAS PRESSURE

- Proper input pressures are required for optimum performance and safety. Gas line sizing is **EXTREMELY** important and should be performed only by a qualified gas professional. Supply line sizing requirements need to be made following ANSI Z223.1/NFPA 54.

- Pressure requirements for the appliance are shown in the table below. Pressure readings must be attained **WHILE THIS APPLIANCE AND ALL OTHER GAS APPLIANCES ARE IN OPERATION.**

- Although it is safe to operate at minimum pressure, the unit should be operating at the ideal inlet pressure, shown in the table below.

### C. GAS SUPPLY AND CONNECTION

- All fixed fuel piping (hard-piped) systems shall be installed in accordance to local building codes; if none exist, ANSI Z223.1/NFPA 54 should be followed.
- Installation of fixed fuel piping (hard-piped) systems should be performed only by authorized installers approved and/or licensed as required by the locality.
- A dedicated manual shut-off valve shall be installed upstream of this appliance and its controls.
- This appliance and its dedicated manual shutoff valve need to be disconnected from the main gas supply system during any pressure testing in excess of ½ psi (3.5 kPa).
- This appliance must be isolated from the main gas supply by closing its dedicated manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than ½ psi (3.5 kPa).

| MINIMUM INLET PRESSURE  |                          | MAXIMUM INLET PRESSURE   |                          | IDEAL INLET PRESSURE     |                         |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| PROPANE                 | NATURAL GAS              | PROPANE                  | NATURAL GAS              | PROPANE                  | NATURAL GAS             |
| 8.0 in. WC<br>(2.0 kPa) | 3.5 in. WC<br>(0.87 kPa) | 14.0 in. WC<br>(3.5 kPa) | 10.5 in. WC<br>(2.6 kPa) | 11.0 in. WC<br>(2.7 kPa) | 7.0 in. WC<br>(1.7 kPa) |



### D. LEAK CHECK AND LINE PURGE

Once the gas piping system is in place, all fittings and connections need to be checked for leaks.

Use a commercially-available, non-corrosive leak check solution.

Once leak test is complete, be sure to rinse off all remaining leak check solution from the gas piping systems.

#### **WARNING: CHECK FOR GAS LEAKS**

#### **FIRE RISK**

#### **EXPLOSION RISK**

#### **ASPHYXIATION RISK**

- Check all fittings and connections.
  - Do not use an open flame.
- Eliminate possible ignition sources such as open flames and sparks during leak check.
- Presence of gas leaks can lead to high levels of carbon monoxide. If leaks are detected, ensure proper ventilation is available to expedite the dissipation of leaked gas.

After leak check has been performed and the gas supply system is leak free, a purge of the air in the supply line should be performed in order to ensure a safe first ignition of the appliance.

#### **WARNING**

#### **FIRE RISK**

#### **EXPLOSION RISK**

- Gas build-up during purge may ignite.
- Purge should be performed by an authorized gas technician.
- Eliminate possible ignition sources such as open flames and sparks during leak check.
  - Ensure adequate ventilation.

### E. ADDITIONAL GAS SUPPLY INFORMATION

For propane installations using a non-disposable, self-contained propane supply system (20 lb. propane tank and the manufacturer supplied regulator hose):

- The propane cylinder use with this appliance must be constructed and marked in accordance with the U.S. Department of Transportation. (D.O.T.) *Specifications for Propane-Gas Cylinders, or the Standard for Cylinders, Spheres and Tubes for Transportation of Dangerous Goods and Commission, CAN/CSA-B339, as applicable.*
- The propane cylinder must be provided with a listed overfilling prevention device (OPD).
- The propane cylinder must be compatible with the regulator hose supplied by the manufacturer with this appliance.

#### **WARNING**

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

#### **WARNING**

Installation and repair should be performed only by a qualified service technician.



# 6

## BURNER INSTALLATION

### A. SELF-CONTAINED PROPANE CYLINDER INSTALLATIONS

A YouTube tutorial on self-contained propane cylinder setups is available at the web address below. NOTE: Thermocouple is attached from factory.  
<https://www.youtube.com/watch?v=h2wflGK6RdY&feature=youtu.be>

### IMPORTANT

Other media options apart from the supplied clear glass gems can be used in Crystal Fire® Plus burners, but they should be supplied by the Outdoor GreatRoom Company™. This ensures that the proper amount of media is used and that the media is approved for use in gas appliances.

**MEDIA MUST BE IN PLACE DURING OPERATION.** Operation of appliance without media will damage the burner.

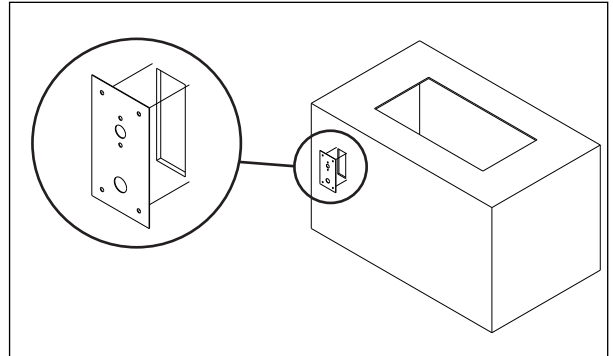
Overfilling of the burner with media can cause adverse operational issues.

Use of burner media other than that supplied by The Outdoor GreatRoom Company™ is not recommended and could lead to operational issues.

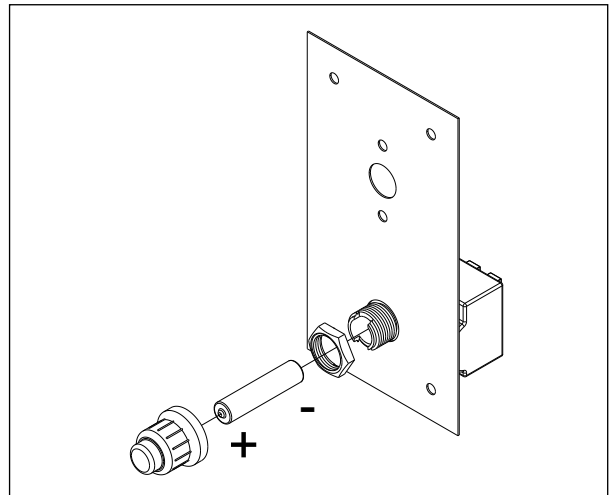
1. Secure supplied control panel to enclosure with suitable fasteners. See Image 6.1. If installing into an Outdoor GreatRoom Company™ fire table, a control panel will already be installed and the supplied control panel can be discarded. A control panel for use in landscape block applications is available. See Reference Materials for information.
2. Remove cap and hex nut from sparker box. Put threaded section of sparker box through control panel and secure in place with hex nut. Install one (1) AAA battery in the sparker box and secure cap onto sparker as shown in Image 6.2.
3. Using adjustable wrenches, tighten all connections shown in Image 6.3. This step serves as a final safety measure as all fittings come tightened from the factory.

### ⚠ WARNING ⚠

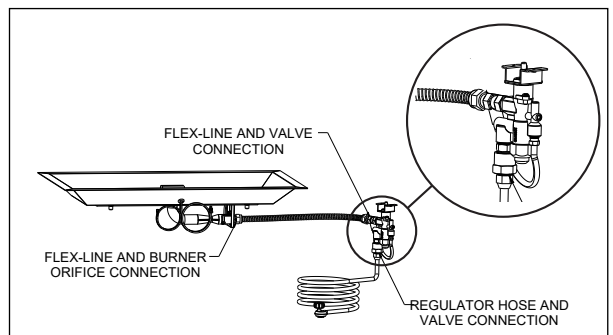
Installation and repair should be performed only by a qualified service technician.



(Img. 6.1)



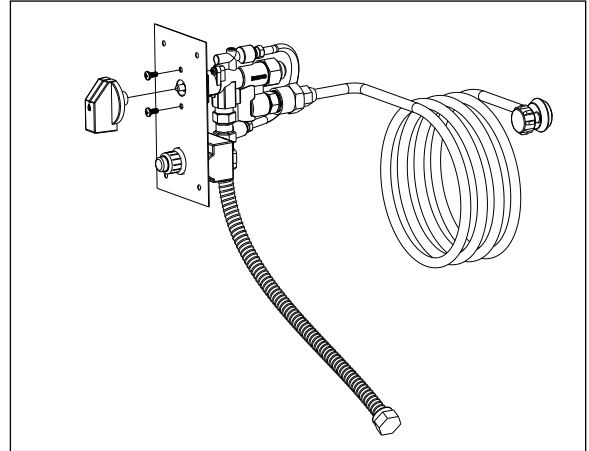
(Img. 6.2)



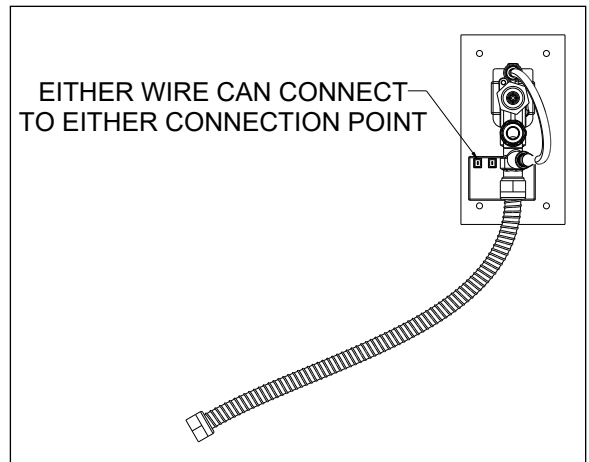
(Img. 6.3)



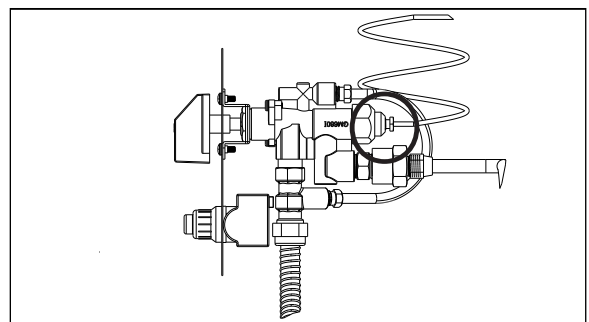
4. Secure control valve to control panel with two (2) supplied Phillips head screws. Install control knob onto valve stem. See Image 6.4. Carefully position burner flex-line to ensure thermocouple is not kinked or damaged.
5. Connect igniter and ground wire to sparker box. See Image 6.5. Both wires can connect to either connection point. The unit will operate in either configuration.
6. Visually inspect thermocouple connection to ensure proper installation (~1 thread visible). See Image 6.6. Damage to the thermocouple and/or loose connections will cause operation issues. Use a 10 mm wrench if connection must be tightened.
7. Carefully place burner assembly into enclosure. Evenly spread glass media over burner surface. Glass media **CANNOT** be present inside igniter wind guard. Glass media **CAN** cover ignition wind guard cover. See Image 6.7 for proper media coverage. Remove cardboard cover from inside ignition wind guard.



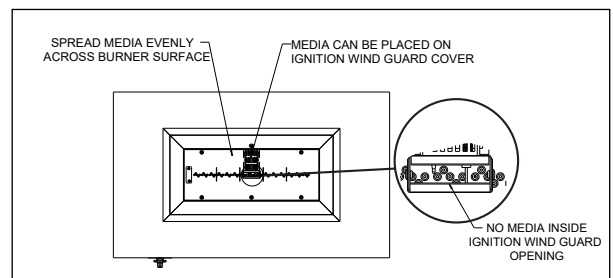
(Img. 6.4)



(Img. 6.5)

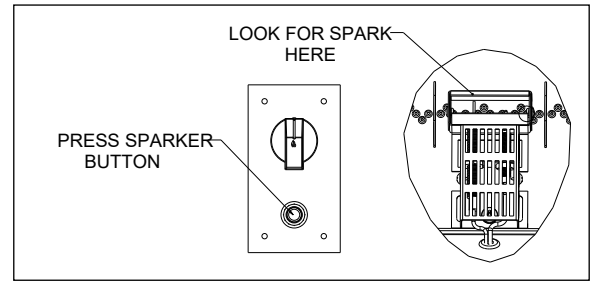


(Img. 6.6)



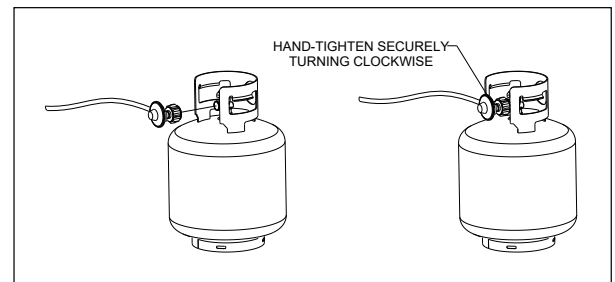
(Img. 6.7)

8. Press and hold the sparker button to verify presence of spark. Look inside ignition wind guard for visible spark. See Image 6.8.



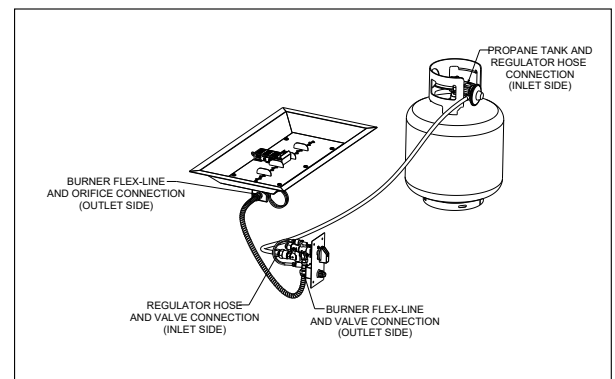
(Img. 6.8)

9. Ensure propane cylinder valve is closed. Hand-tighten propane regulator hose to propane cylinder. See Image 6.9.



(Img. 6.9)

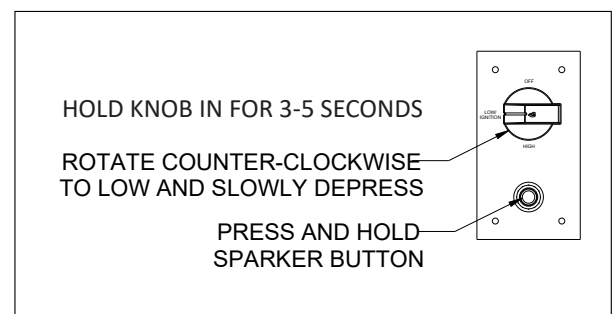
10. Verify that control valve is in OFF position. Apply commercially-available, non-corrosive leak check solution to all gas connection points. See Image 6.10. Slowly open valve on propane cylinder and check for any bubbles on inlet side of gas system. If bubbles are present, close propane cylinder valve immediately and tighten all fittings again using adjustable wrenches.



(Img. 6.10)

11. If no leaks are present, a first lighting and final leak check can be performed. With propane cylinder valve open, turn control valve to the LOW/IGNITION position. Press and hold sparker button, slowly depress the control knob. Hold knob in for 3-5 seconds. See Image 6.11. Burner should be ignited. Verify no bubbles are present on outlet side of gas system.

12. If no leaks are present on outlet side of gas system, the Crystal Fire Plus burner is ready for normal operation. If leaks are present, turn control valve to OFF position and close the propane cylinder valve. Re-tighten all fittings and repeat steps 10-11.



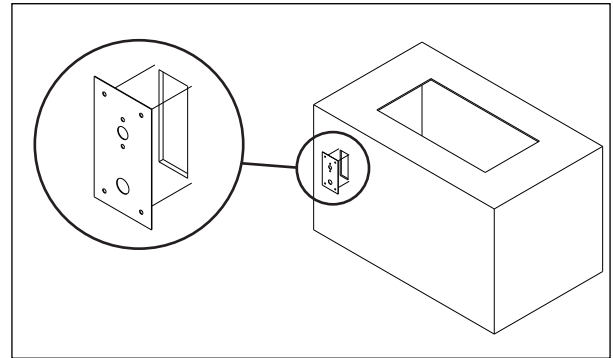
(Img. 6.11)

## B. HARD-PIPED PROPANE INSTALLATIONS

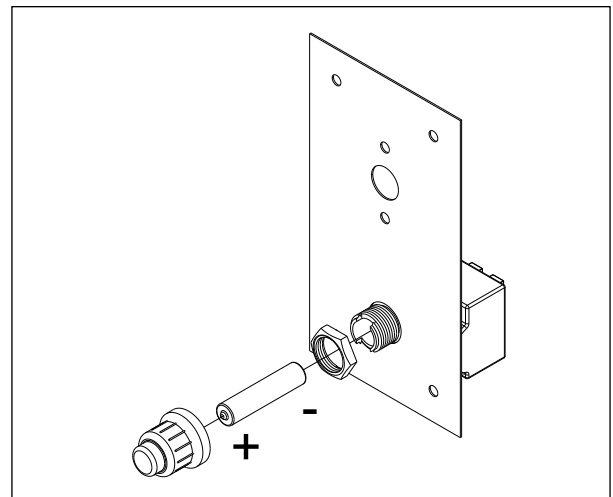
### **WARNING**

Installation and repair should be performed only by a qualified service technician.

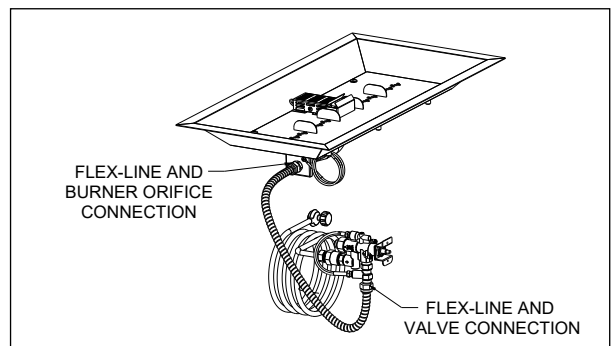
- Secure supplied control panel to enclosure with suitable fasteners. See Image 6.12.  
If installing into an Outdoor GreatRoom Company™ fire table, a control panel will already be installed and the supplied control panel can be discarded. A control panel for use in landscape block applications is available. See Reference Materials for information.
- Remove cap and hex nut from sparker box. Put threaded section of sparker box through control panel and secure in place with hex nut. Install one (1) AAA battery in the sparker box and secure the cap onto sparker as shown in Image 6.13.
- Using adjustable wrenches, tighten all connections shown in Image 6.14. This step serves as a final safety measure as all fittings come tightened from the factory.
- Using adjustable wrenches, remove propane regulator hose and flare fitting adaptor. See Image 6.15.



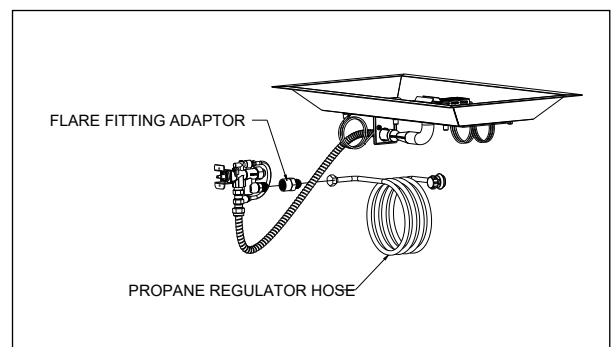
(Img. 6.12)



(Img. 6.13)

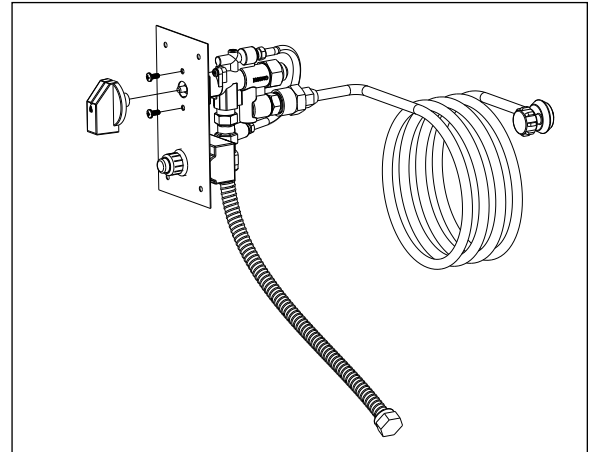


(Img. 6.14)

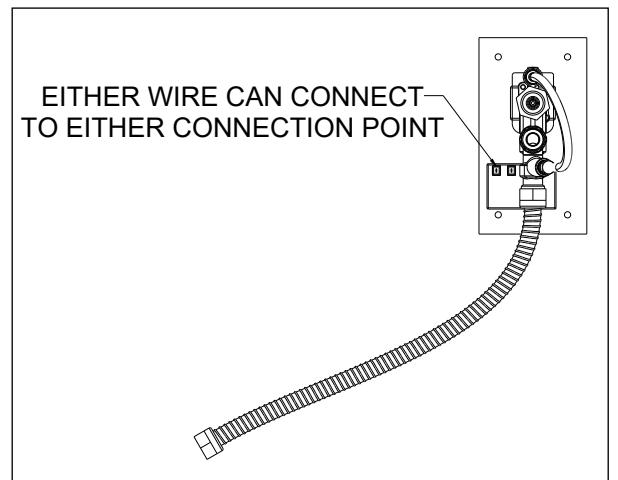


(Img. 6.15)

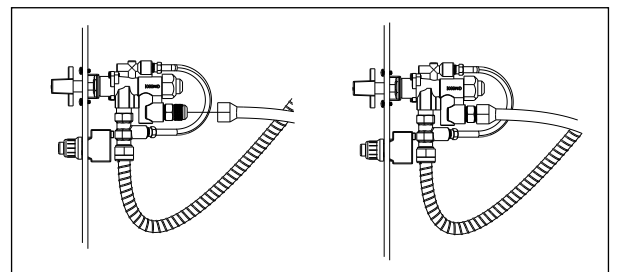
5. Secure control valve to control panel with two (2) supplied Phillips head screws. Install control knob onto valve stem. See Image 6.16. Carefully position burner flex-line to ensure thermocouple is not kinked or damaged.
  
6. Connect igniter and ground wire to sparker box. See Image 6.17. Both wires can connect to either connection point. The unit will operate in either configuration.
  
7. Connect main gas supply to ½" male flare fitting of control valve using adjustable wrenches. See Image 6.18. Smooth copper pipe is suggested for best operation. The Outdoor GreatRoom Company™ offers whistle-free corrugated flex-lines for this connection in a variety of lengths. See Reference Materials for more information.
  
8. Visually inspect thermocouple connection to ensure proper installation (~1 thread visible). See Image 6.19. Damage to the thermocouple and/or loose connections will cause operation issues. Use a 10 mm wrench if connection must be tightened.



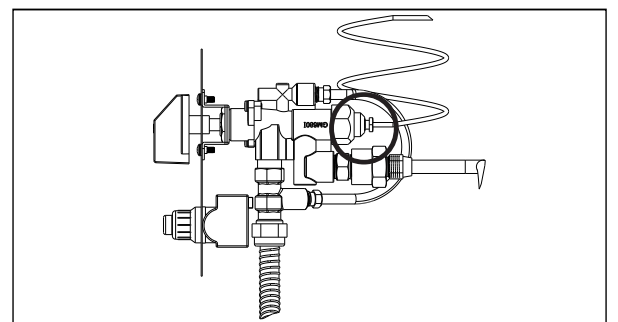
(Img. 6.16)



(Img. 6.17)

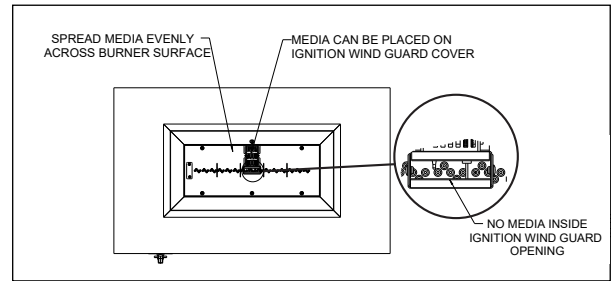


(Img. 6.18)



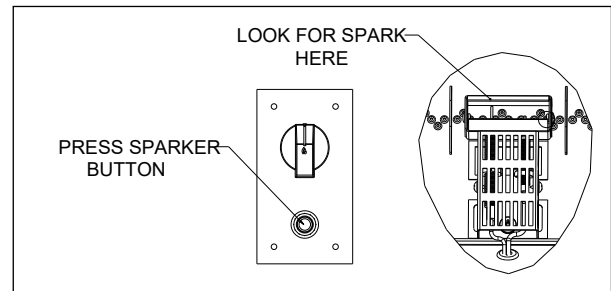
(Img. 6.19)

9. Carefully place burner assembly into enclosure. Evenly spread glass media over burner surface. Glass media CANNOT be present inside igniter wind guard. Glass media CAN cover ignition wind guard cover. See Image 6.20 for proper media coverage. Remove cardboard cover from inside ignition wind guard.



(Img. 6.20)

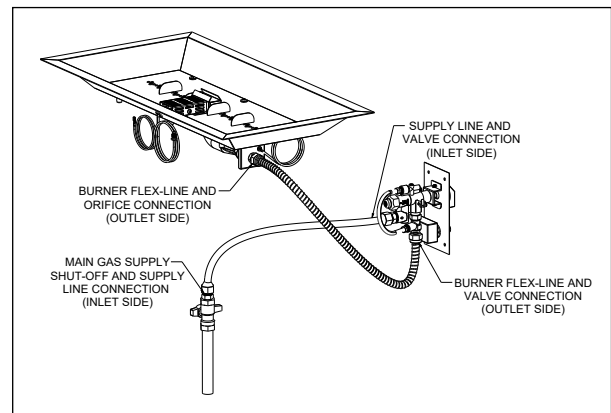
10. Press and hold sparker button to verify presence of spark. Look inside ignition wind guard for visible spark. See Image 6.21.



(Img. 6.21)

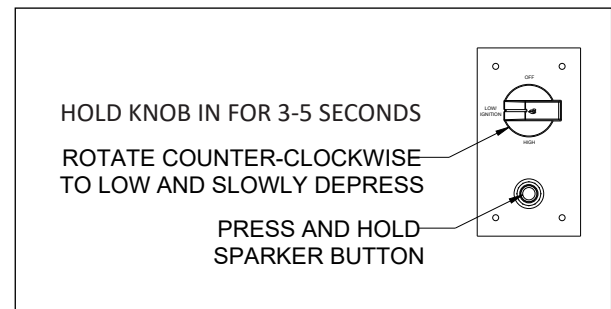
11. Ensure main gas supply shut-off valve is closed.

12. Verify that control valve is in OFF position. Apply commercially-available, non-corrosive leak check solution to all gas connection points. See Image 6.22. Slowly open main gas supply shut-off valve and check for any bubbles on inlet side of gas system. If bubbles are present, close main gas supply shut-off valve immediately and tighten all fittings again using adjustable wrenches.



(Img. 6.22)

13. If no leaks are present, a first lighting and final leak check can be performed. With main gas supply shut-off valve open, turn control valve to LOW/IGNITION position. Press and hold sparker button, slowly depress control knob. Hold knob in for 3-5 seconds See Image 6.23. Burner should be ignited. Verify no bubbles are present on outlet side of gas system.



(Img. 6.23)

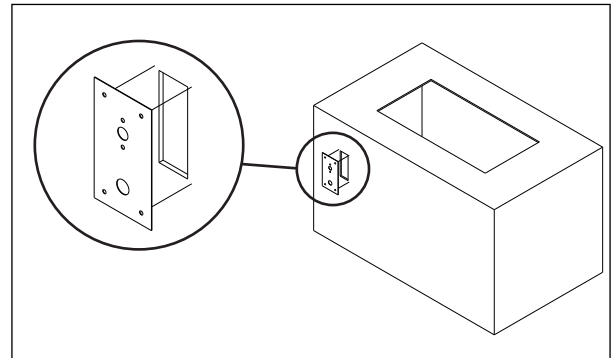
14. If no leaks are present on outlet side of gas system, the Crystal Fire® Plus burner is ready for normal operation. If leaks are present, turn control valve to OFF position and close main gas supply shut-off valve. Re-tighten all fittings and repeat steps 11-13.

## C. HARD-PIPED NATURAL GAS INSTALLATIONS

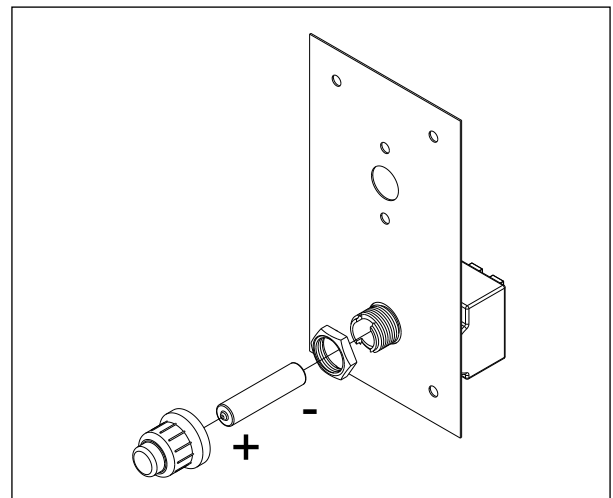


Installation and repair should be performed only by a qualified service technician.

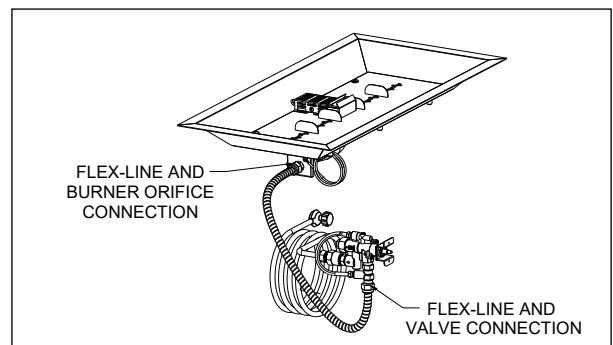
1. Secure supplied control panel to enclosure with suitable fasteners. See Image 6.24.  
If installing into an Outdoor GreatRoom Company™ fire table, a control panel will already be installed and the supplied control panel can be discarded. A control panel for use in landscape block applications is available. See Reference Materials for information.
2. Remove cap and hex nut from sparker box. Put threaded section of sparker box through control panel and secure in place with hex nut. Install one (1) AAA battery in sparker box and secure cap onto sparker as shown in Image 6.25.
3. Using adjustable wrenches, tighten all connections shown in Image 6.26. This step serves as a final safety measure as all fittings come tightened from the factory.
4. Using adjustable wrenches, remove the propane regulator hose and flare fitting adaptor. See Image 6.27.



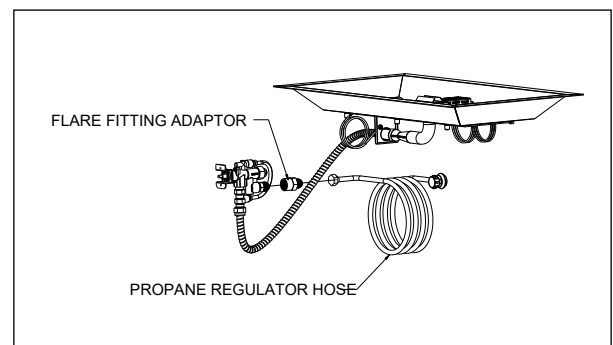
(Img. 6.24)



(Img. 6.25)



(Img. 6.26)

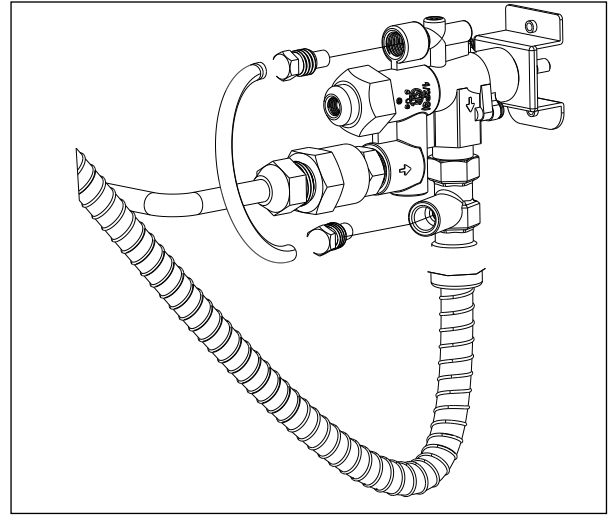


(Img. 6.27)

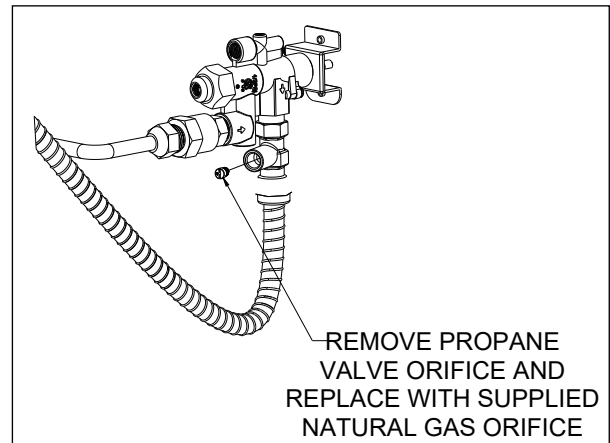


### NATURAL GAS CONVERSION INSTRUCTIONS:

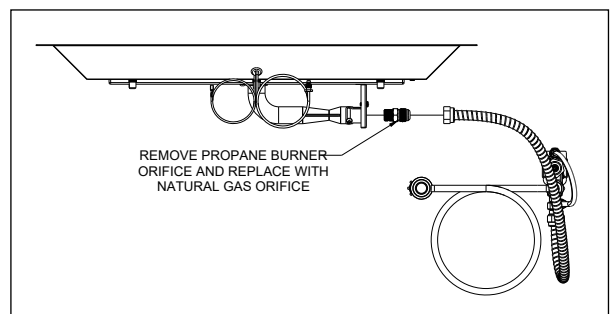
5. Using 11 mm wrench, remove low-rate bypass tube from control valve.  
See Image 6.28.
6. With a flat-blade screwdriver, remove valve orifice and replace with natural gas orifice specified on Pg. 6 of this manual. If no valve orifice is required, low-rate bypass tube can be reinstalled using 11 mm wrench.  
See Image 6.29.
7. Using adjustable wrenches, remove burner flex-line from burner orifice. Remove the propane burner orifice installed in the burner, and install supplied natural gas orifice specified on Pg. 5 or 6 of this manual.  
See Image 6.30.
8. Loosen air shutter with Phillips head screwdriver and close air shutter to 1/8" open. For altitude above 2,500 feet, leave air shutter 1/4" open.  
See Image 6.31. Tighten screw when air shutter is properly positioned.
9. Using adjustable wrenches, connect burner flex-line to natural gas burner orifice and tighten securely. **NATURAL GAS CONVERSION IS COMPLETE.**



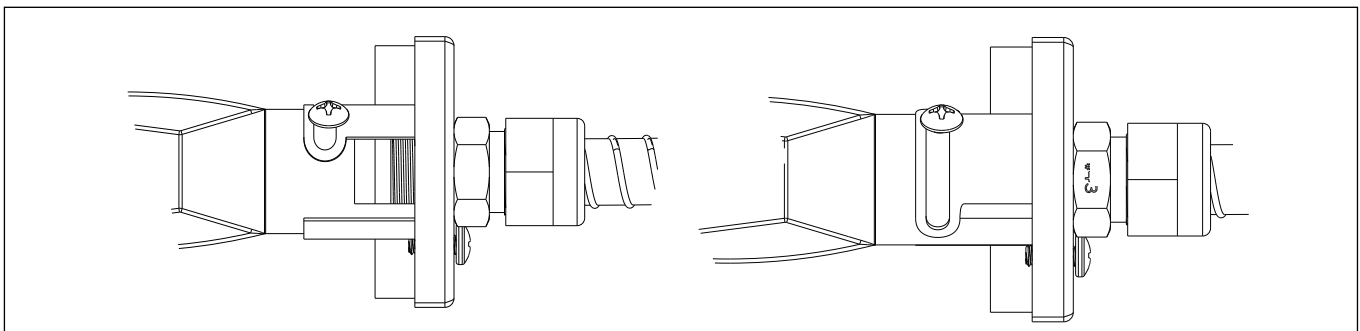
(Img. 6.28)



(Img. 6.29)



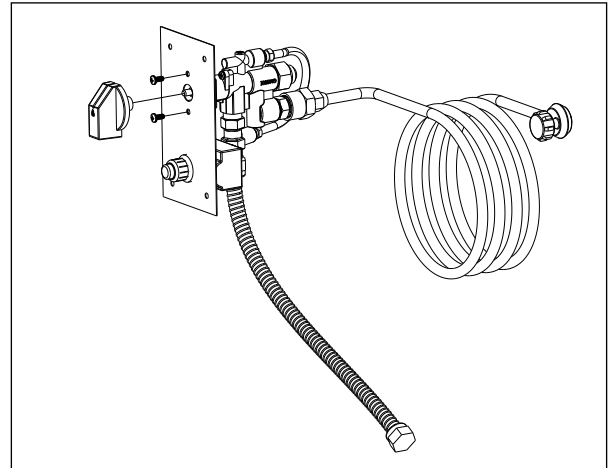
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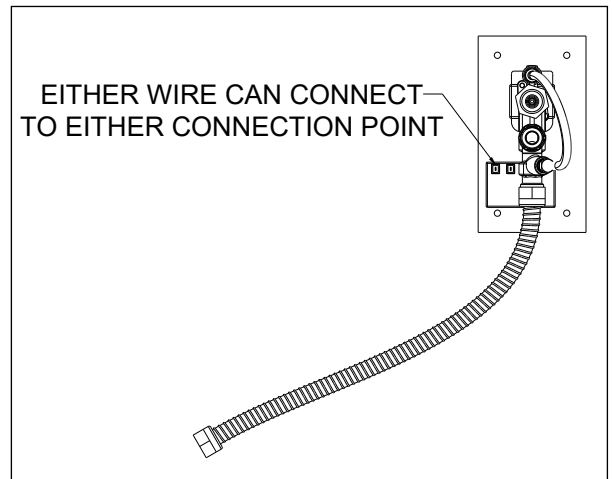
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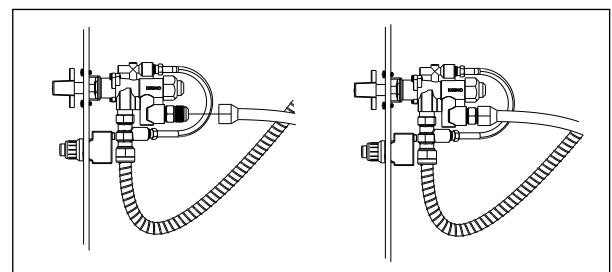
10. Secure control valve to control panel with two (2) supplied Phillips head screws. Install control knob onto valve stem. See Image 6.32. Carefully position burner flex-line to ensure thermocouple is not kinked or damaged.
  
11. Connect igniter and ground wire to sparker box. See Image 6.33. Both wires can connect to either connection point. The unit will operate in either configuration.
  
12. Connect main gas supply to ½” male flare fitting of control valve using adjustable wrenches. See Image 6.34. Smooth copper pipe is suggested for best operation. The Outdoor GreatRoom Company™ offers whistle-free corrugated flex-lines for this connection in a variety of lengths. See Reference Materials for more information.
  
13. Visually inspect thermocouple connection to ensure proper installation (~1 thread visible). See Image 6.35. Damage to the thermocouple and/or loose connections will cause operation issues. Use a 10 mm wrench if connection must be tightened.



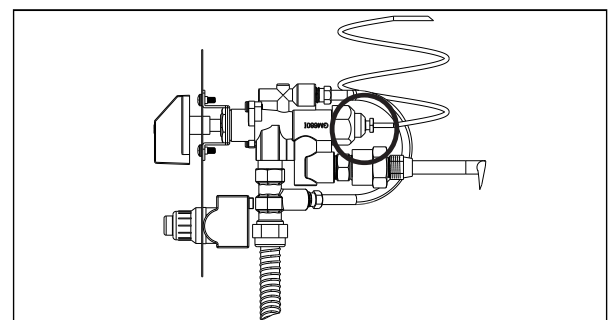
(Img. 6.32)



(Img. 6.33)

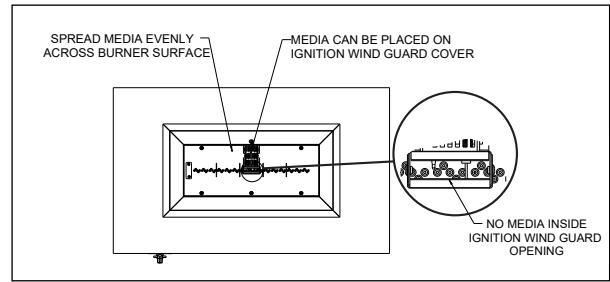


(Img. 6.34)



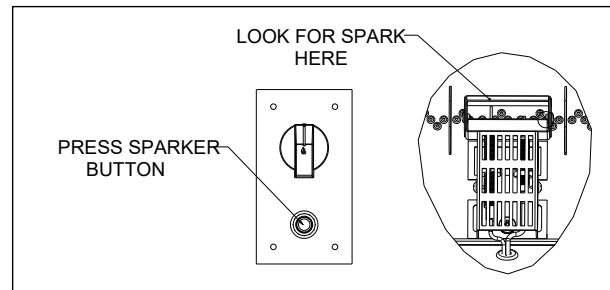
(Img. 6.35)

14. Carefully place burner assembly into enclosure. Evenly spread glass media over burner surface. Glass media CANNOT be present inside igniter wind guard. Glass media CAN cover igniter wind guard cover. See Image 6.36 for proper media coverage. Remove cardboard cover from inside igniter wind guard.



(Img. 6.36)

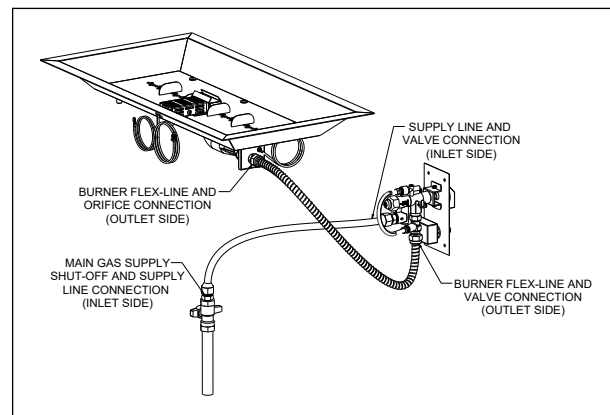
15. Press and hold sparker button to verify presence of spark. Look inside ignition wind guard for visible spark. See Image 6.37.



(Img. 6.37)

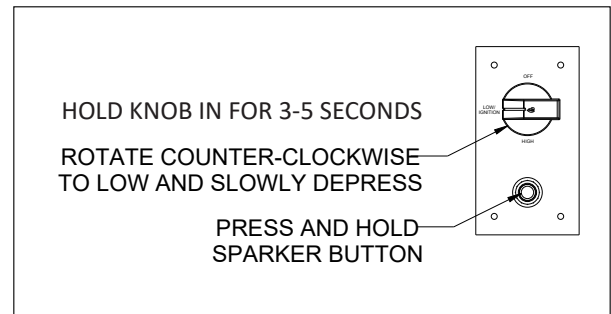
16. Ensure main gas supply shut-off valve is closed.

17. Verify that control valve is in OFF position. Apply commercially-available, non-corrosive leak check solution to all gas connection points. See Image 6.38. Slowly open main gas supply shut-off valve and check for any bubbles on inlet side of gas system. If bubbles are present, close main gas supply shut-off valve immediately and tighten all fittings again using adjustable wrenches.



(Img. 6.38)

18. If no leaks are present, a first lighting and final leak check can be performed. With main gas supply shut-off valve open, turn control valve to LOW/IGNITION position. Press and hold sparker button, slowly depress control knob. Hold knob in for 3-5 seconds. See Image 6.39. Burner should be ignited. Verify no bubbles are present on outlet side of gas system.



(Img. 6.39)

19. If no leaks are present on outlet side of gas system, the Crystal Fire® Plus burner is ready for normal operation. If leaks are present, turn control valve to the OFF position and close main gas supply shut-off valve. Re-tighten all fittings and repeat steps 16-18.

## IMPORTANT

Other media options apart from the supplied clear glass gems can be used in Crystal Fire® Plus burners, but they should be supplied by the Outdoor GreatRoom Company™. This ensures that the proper amount of media is used and that the media is approved for use in gas appliances.

**MEDIA MUST BE IN PLACE DURING OPERATION.** Operation of appliance without media will damage the burner.

Overfilling of the burner with media can cause adverse operational issues.

Use of burner media other than that supplied by The Outdoor GreatRoom Company™ is not recommended and could lead to operational issues.

# 7

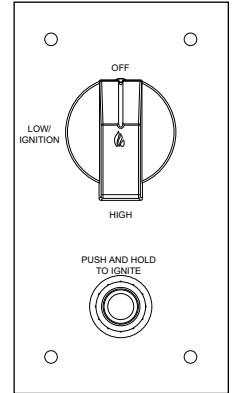
# LIGHTING AND OPERATION

## ⚠ WARNING ⚠

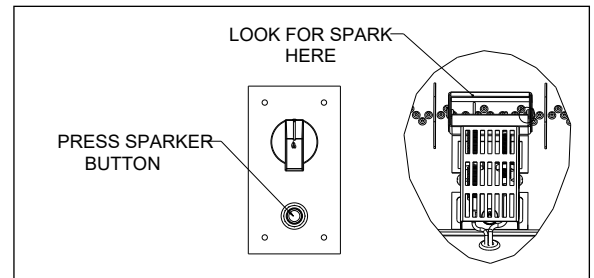
### FIRE OR EXPLOSION HAZARD

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

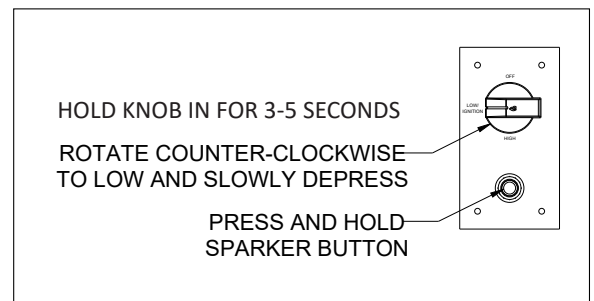
1. Verify control valve is in OFF position. See Image 7.1. If operating on a self-contained propane cylinder, ensure cylinder valve is CLOSED. If operating on a hard-piped system, ensure main gas supply shut-off valve and all other valves in gas system are OPEN.
2. If operating on a self-contained propane cylinder, slowly open cylinder valve.
3. Press and hold sparker button. Verify an audible and visible spark is present within the ignition wind guard. See Image 7.2.
4. Gently press and turn control knob to LOW/IGNITION position. Fully depress control knob and hold for 3-5 seconds. See Image 7.3. Burner should ignite and continue to operate when control knob is released.
5. If burner does not light or remain lit after 20 seconds of attempting ignition, turn control valve to OFF position and wait 5 minutes to allow gas to dissipate before attempting ignition again. **DO NOT ATTEMPT TO LIGHT BURNER IF YOU SMELL GAS.**
6. With burner lit and operating, the flame height can be adjusted between LOW and HIGH at any time. See Image 7.4.



(Img. 7.1)



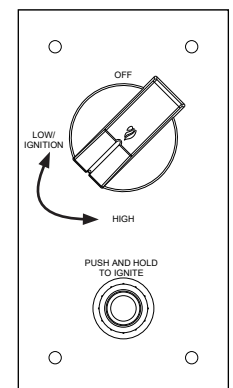
(Img. 7.2)



(Img. 7.3)

## TO EXTINGUISH

1. Turn control knob to LOW/IGNITION position. Then gently depress control knob and turn to OFF position. See Image 7.1.
2. If using a self-contained propane cylinder, close valve.



(Img. 7.4)

# 8

## TROUBLESHOOTING

| SYMPTOM |  | POSSIBLE CAUSES |  | CORRECTIVE ACTIONS  |
|---------|--|-----------------|--|---|
| 1.      | Burner will not ignite                       | A.              | Propane tank is empty.   | Replace propane tank with full tank or have propane tank filled and reattempt ignition.   |
|         |  | B.              | Propane tank OPD has been activated. This occurs when the Propane tank is full and the Propane tank valve is opened without first closing the appliance control valve. | Close propane tank valve and disconnect propane regulator hose from tank. Reconnect propane regulator hose to tank and open valve. Follow proper lighting procedures detailed on Pg.29. |
|         |  | C.              | Gas supply individual shutoff valve is closed.   | Open individual shutoff valve on gas supply and reattempt ignition.   |
|         |  | D.              | Excessive media buildup around igniter.  | Ensure media installation instructions are followed and media is not present inside the ignition wind guard.  |
|         |  | E.              | Obstruction in main burner gas pathway.  | Check burner orifice and burner neck for blockage. This should be done by a qualified service technician.   |
| 2.      | Low flames and/or burner will not stay lit.  | A.              | Improper air shutter adjustment.   | The air shutter is adjusted from the factory for optimal performance. For NG, air shutter should be closed. For propane, air shutter will be ¼" open.                                   |
|         |  | B.              | Improper gas supply pressure.  | Ensure appliance is operating at the ideal inlet gas pressure detailed on Pg.6-7. This should be done by a qualified service technician.  |
|         |  | C.              | Excessive media buildup around igniter.  | Ensure media installation instructions are followed and media is not present inside the ignition wind guard.  |
|         |  | D.              | Burner was not converted for operation with natural gas.   | Both the valve orifice and burner orifice must be changed and the air shutter must be closed. Follow conversion instructions on Pg.25.  |
|         |  | E.              | Thermocouple not properly secured to valve   | Ensure thermocouple is tightened to control valve using 10 mm wrench.   |
| 3.      | Flames from burner are blue and translucent. | A.              | Improper air shutter adjustment.   | The air shutter is adjusted from the factory for optimal performance. For NG, air shutter should be closed. For propane, air shutter will be 1/4" open.                                 |
|         |  | B.              | Improper gas supply pressure.  | Ensure appliance is operating at the ideal inlet gas pressure detailed on Pg.6-7. This should be done by a qualified service technician.  |
|         |  | C.              | Burner was not converted for operation with natural gas.   | Both the valve orifice and burner orifice must be changed and the air shutter must be closed. Follow conversion instructions on Pg.25.  |



|    |   |    |   |   |
|----|---|----|---|---|
| 4. | During operation, metallic pinging noises are occurring.                      | A. | Different thermal expansion rates of different components.                        | Do nothing. This is a normal physical characteristic of metal components when they are heated. Various components will expand at different rates resulting in metallic noises.  |
| 5. | Decorative glass media cracking and/or splitting.                             | A. | Normal use over a long period of time.  | Over time, the tempered glass media supplied with the appliance can break down. Replacement glass can be installed after damaged glass is removed.  |
|    |   | B. | Excessive thermal shock (abrupt temperature changes) over a short period of time. | Avoid dumping of liquids (beverages) into appliance. Unexpected rain during operation can also cause cracking/splitting of glass media. Covering of appliance when not in use is highly recommended. Replacement glass can be installed after damaged glass is removed. |
| 6. | Push-button sparker makes clicking sound but no visible spark is produced.    | A. | Gap between sparker electrode and ground electrode is too great.                  | Ensure the gap between sparking electrode and ground electrode is ¼”.   |
|    |   | B. | Excessive media buildup around igniter.   | Ensure that media installation instructions are followed and media is not present inside the ignition wind guard.   |
|    |   | C. | Ignition electrode or ground wire not connected to sparker.                       | Ensure ignition electrode and ground wire leads are properly connected to sparker.  |
| 7. | Push-button sparker makes no clicking sound and no visible spark is produced. | A. | Battery is dead or not installed.   | Ensure a new AAA battery is installed in the push-button sparker.   |
|    |   | B. | Gap between sparker electrode and ground electrode is too great.                  | Ensure the gap between ignition electrode and ignition wind guard wall is 1/8” to 3/16”.  |
|    |   | C. | Excessive media buildup around igniter.   | Ensure media installation instructions are followed and media is not present inside the ignition wind guard.  |
|    |   | D. | Ignition electrode or ground wire not connected to sparker.                       | Ensure ignition electrode and ground wire leads are properly connected to sparker.  |

**This list is not exhaustive but contains the most common problems to be encountered in the field.**

**For additional troubleshooting information not detailed in this manual, please contact the dealer or location from which the product was purchased.**

**If additional assistance is required:**

**Visit <https://www.outdoorrooms.com/product-support/faqs>  
or contact The Outdoor GreatRoom Company™ at 1-866-303-4028**

# 9

## SERVICE AND MAINTENANCE

### A. REGULAR MAINTENANCE TASKS

If using a self-contained propane gas supply system with the supplied propane regulator hose assembly, the hose should be inspected for damage **BEFORE EACH USE OF THE APPLIANCE**. If damage to the hose is present, do not operate the unit and contact the dealer or location from which the product was purchased for a replacement propane regulator hose.

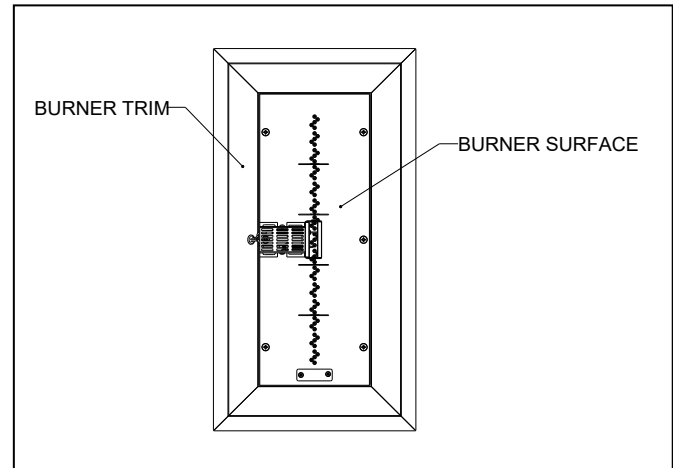
Maintenance of the appliance should be performed by a qualified professional at a minimum of one (1) year intervals.

Depending on use and environmental conditions, service and maintenance may be required at more frequent intervals.

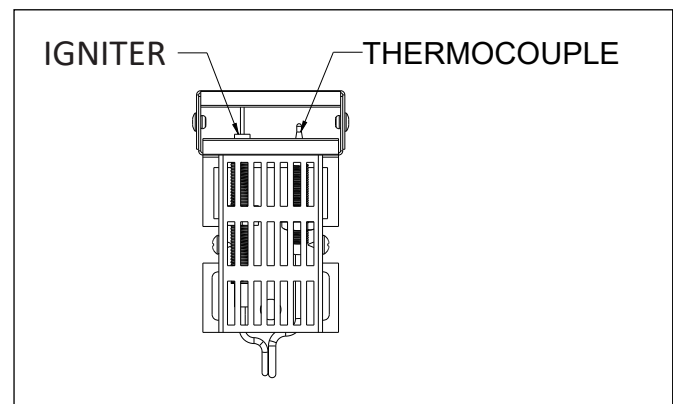
1. Inspect burner surface for damage and debris.
  - a. Remove glass media. See Image 9.1
  - b. Remove dirt and debris with compressed air.
  - c. Wipe surface clean with soft cotton rag.
  - d. Check for damage and corrosion of the burner surface that would cause gas leaks. See Image 9.1.
2. Inspect igniter and thermocouple for buildup and/or corrosion. See Image 9.2.
  - a. Clean ignition electrode with fine-grit emery cloth.
  - b. Remove buildup from thermocouple with compressed air and a damp rag.
3. Inspect burner neck and orifice for obstruction. See Image 9.3.
  - a. Disconnect appliance from gas supply.
  - b. Visually inspect burner neck and orifice for obstructions. See Image 9.3.
  - c. Clear out obstructions with compressed air.

### ⚠ WARNING ⚠

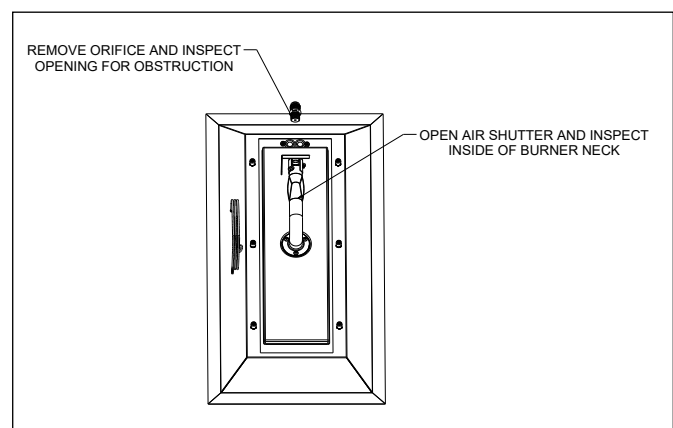
Installation and repair should be performed only by a qualified service technician.



(Img. 9.1)



(Img. 9.2)

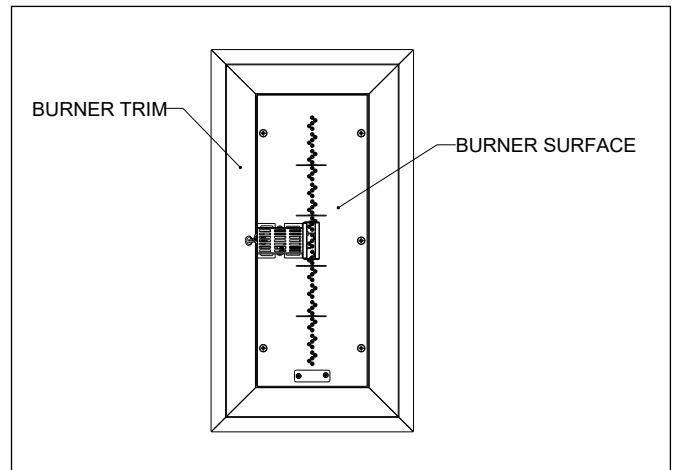


(Img. 9.3)



## B. CLEANING THE APPLIANCE

1. Remove glass media and clean in basin of water mixed with dish soap. Allow to dry on a towel.
2. Use compressed air to remove any debris from the burner surface. See Image 9.4.
3. Stainless steel burner trim can be cleaned and polished with commercially-available stainless steel cleaners and a polish such as Brasso™. See Image 9.4.



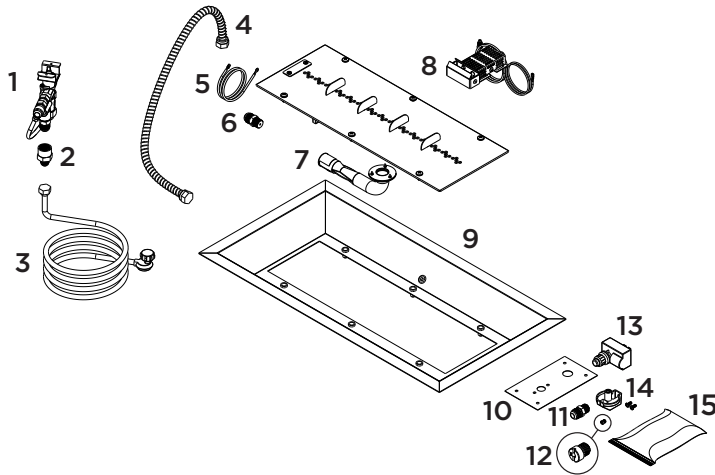
(Img. 9.4)



# 10

## REFERENCE MATERIALS

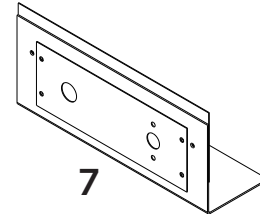
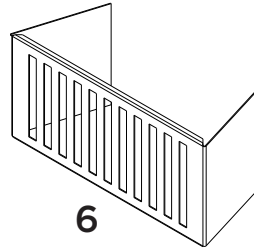
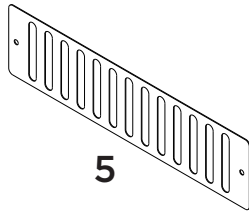
### A. SERVICE PARTS LIST



| #  | Part Description   | Part Number        |
|----|--|--------------------|
| 1  | Variable Control Safety Valve For CFP1224, CFP20, CFP2424                  | VCSV-S             |
|    | Variable Control Safety Valve For CFP1242, CFP30                           | VCSV-L             |
| 2  | ½" Female Flare X ¾" Male Flare Adapter                                    | 050-F-FL-0375-M-FL |
| 3  | 20 lb. Self-Contained Propane Cylinder Regulator Hose 10' Length           | CF-HOSE-REG        |
| 4  | 22" Whistle-Free Stainless Steel Flex-Line ½" Flare Fittings               | T200-9898-22       |
| 5  | Ground Wire  | CF-GROUND WIRE     |
| 6  | <b>Propane Burner Orifice:</b>   |                    |
|    | 0.125" Diameter at 100K BTU/hr   | 0125-ORIFICE-HC    |
|    | #35 at 80K BTU/hr for CFP1242/BI737  | 35-ORIFICE-HC      |
|    | #43 at 55K BTU/hr for CFP1224/BI719, CFP20/BI16 and CFP2424                | 43-ORIFICE-HC      |
| 7  | Crystal Fire® Plus Burner Neck and Gasket                                  | CF-BURNER NECK     |
| 8  | Crystal Fire® Plus Ignition and Flame Sensor Assembly                      | VCSV-WG            |
| 9  | <b>Burner Trim:</b>  |                    |
|    | Burner Model first, then add "-TRIM"                                       | i.e.: CFP1224-TRIM |
| 10 | Control Panel for Crystal Fire® Plus Burners                               | VCSV-CP            |
| 11 | <b>Natural Gas Burner Orifice:</b>   |                    |
|    | #12 at 100K BTU/hr   | 12-ORIFICE-HC      |
|    | #20 at 80K BTU/hr for CFP1242/BI737  | 20-ORIFICE-HC      |
|    | #30 at 55K BTU/hr for CFP1224/BI719, CFP20/BI16 and CFP2424                | 30-ORIFICE-HC      |
| 12 | <b>Low-Rate Orifice for VCSV</b>   |                    |
|    | #52 for Propane at 25K BTU/hr for CFP1224/BI719, CFP20/BI16 and CF2424     | VCSV-O-52          |
|    | #43 for Natural Gas at 25K BTU/hr for CFP1224/BI719, CFP20/BI16 and CF2424 | VCSV-O-43          |
|    | #42 for Propane at 50K BTU/hr  | VCSV-O-42          |
| 13 | Sparker Box  | CF-SPARKER         |
| 14 | Black Control Knob for VCSV  | BL-KNOB            |
| 15 | 5 lb. Bag of Clear Glass Gems  | CFG-D              |



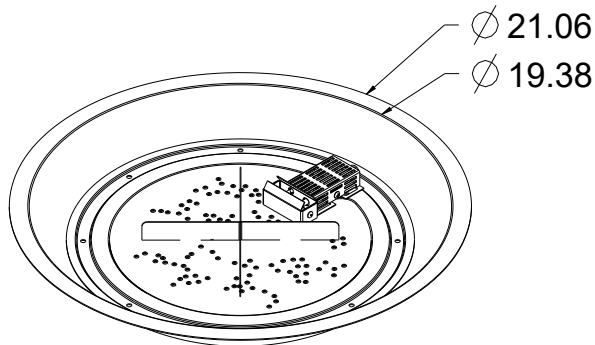
## B. OPTIONAL PARTS



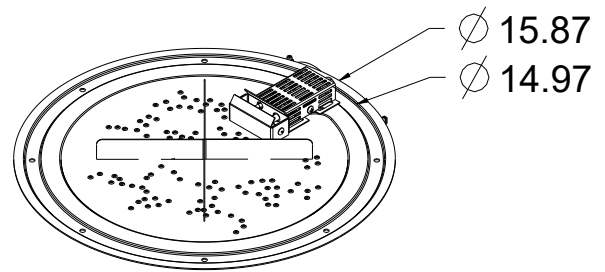
| #  | Part Description  | Part Number     |
|----|---|-----------------|
| 1  | 16" Long Whistle-Free Stainless Steel Flex-Line ½" Flare Fittings | T200-9898-16    |
| 2  | 22" Long Whistle-Free Stainless Steel Flex-Line ½" Flare Fittings | T200-9898-22    |
| 3  | 34" Long Whistle-Free Stainless Steel Flex-Line ½" Flare Fittings | T200-9898-34    |
| 4  | 46" Long Whistle-Free Stainless Steel Flex-Line ½" Flare Fittings | T200-9898-46    |
| 5  | Ventilation Plate for Custom Enclosures                           | 21005           |
| 6  | Ventilation Block for DIY Landscape Block Enclosures              | VENT BLOCK BLK  |
| 7  | Control Panel for DIY Landscape Block Enclosures                  | VCSV-DIY-CP     |
| 8  | Maximum Rate Natural Gas Orifice for CFP1242/BI737                | 12-ORIFICE-HC   |
| 9  | Maximum Rate Propane Orifice for CFP1242/BI737                    | 0125-ORIFICE-HC |
| 10 | Maximum Rate Natural Gas Orifice for CFP20/BI16 and CFP1224/BI719 | 21-ORIFICE-HC   |
| 11 | Maximum Rate Propane Orifice for CFP20/BI16 and CFP1224/BI719     | 36-ORIFICE-HC   |

## C. DIMENSIONAL INFORMATION

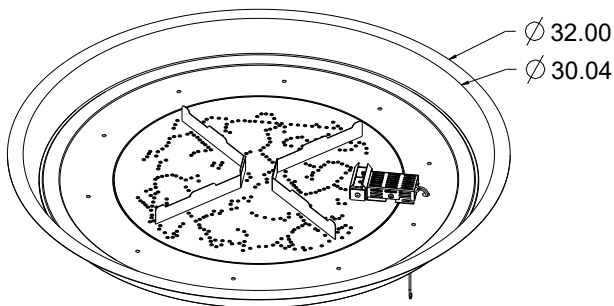
All Dimensions are in Inches



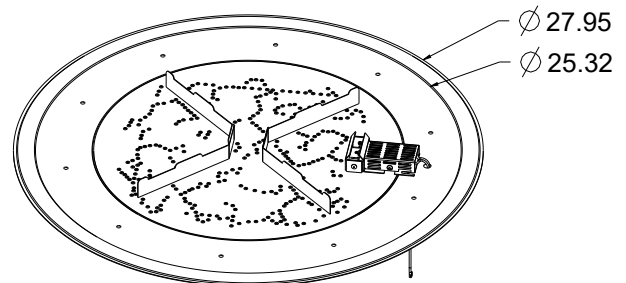
CFP20



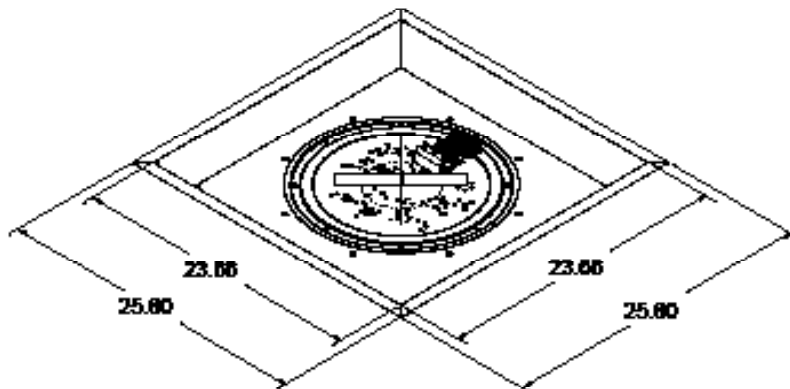
BI16



CFP30

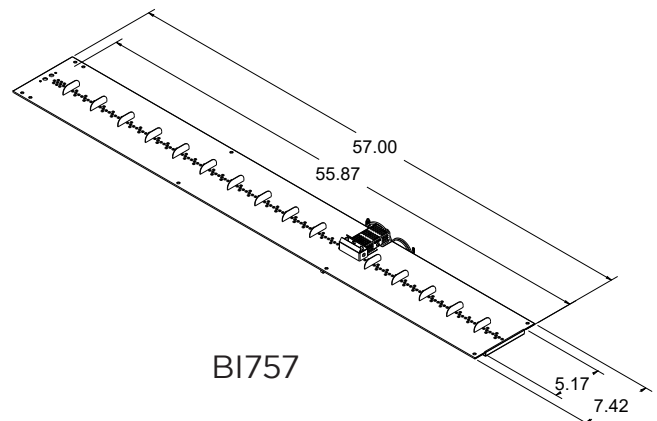
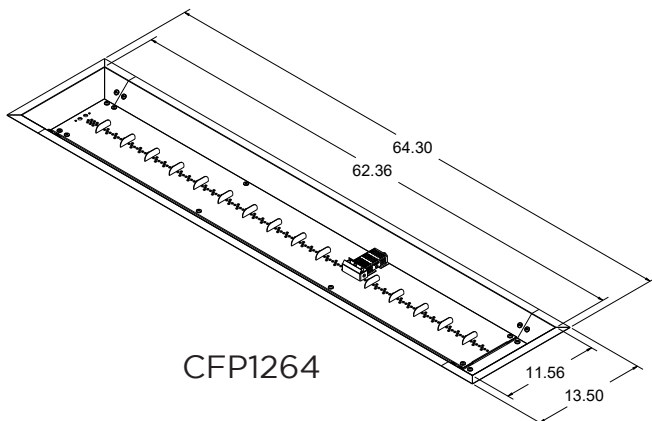
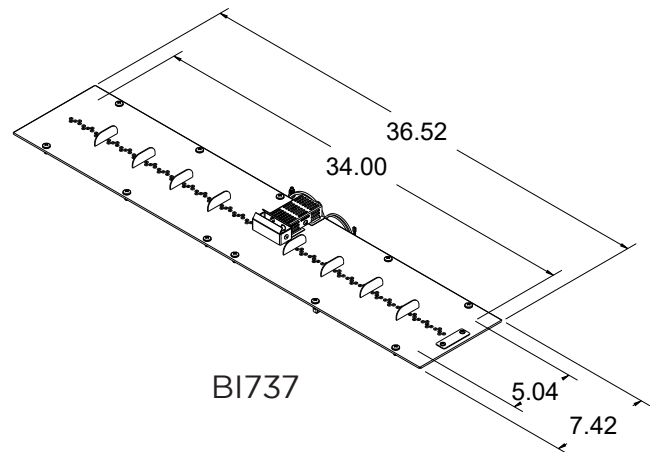
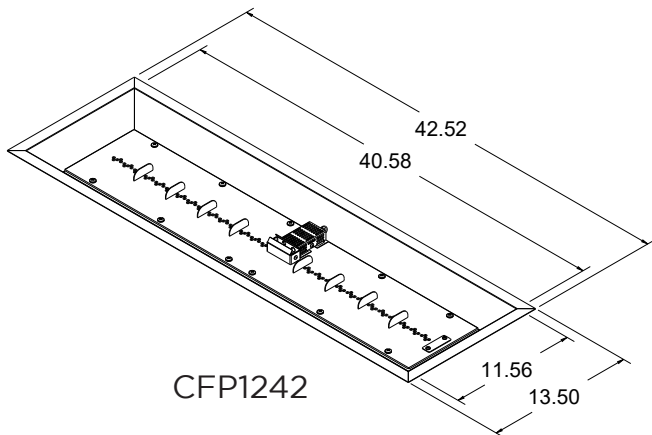
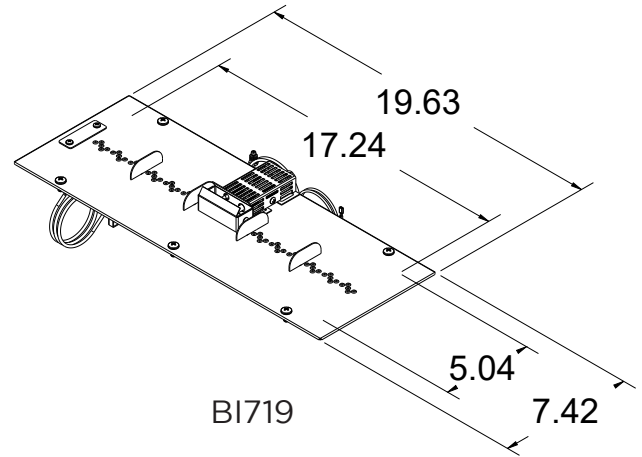
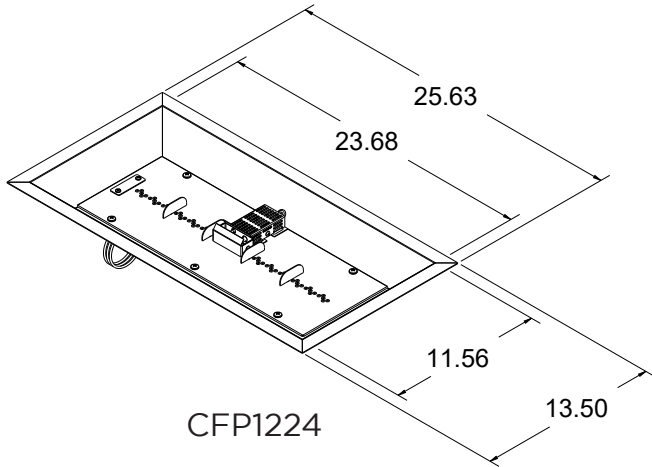


BI28

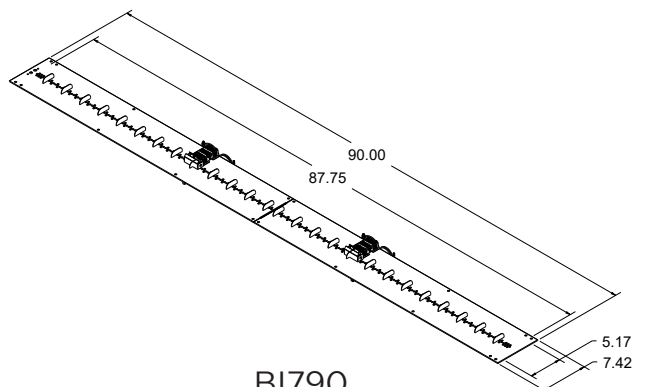
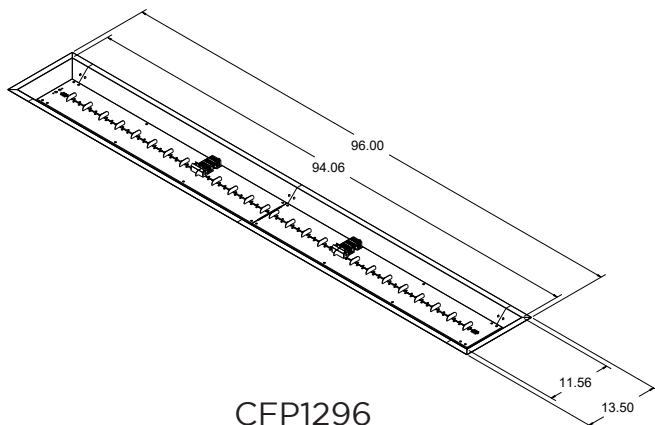
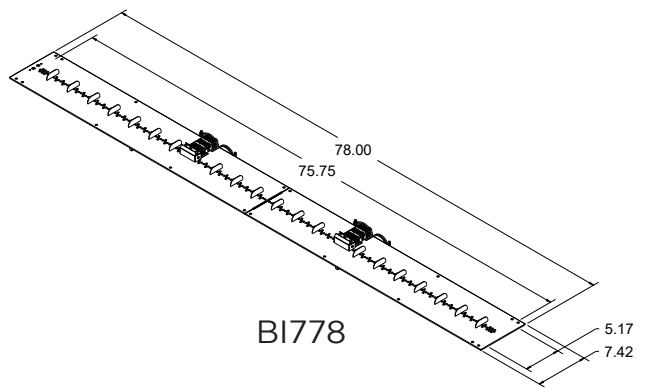
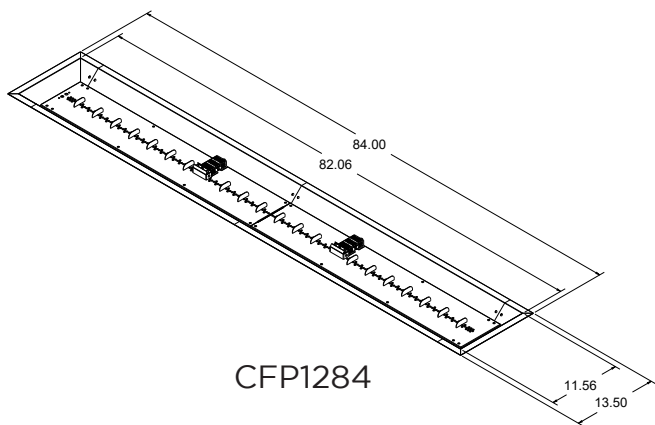
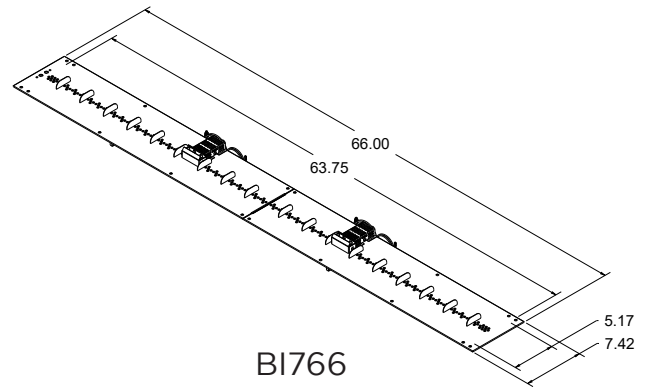
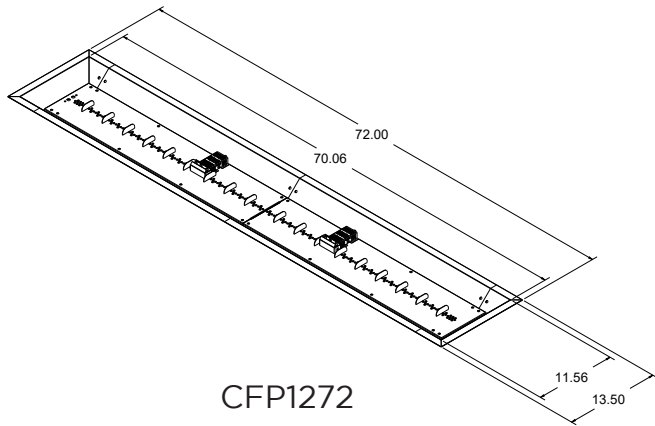


CFP2424

All Dimensions are in Inches

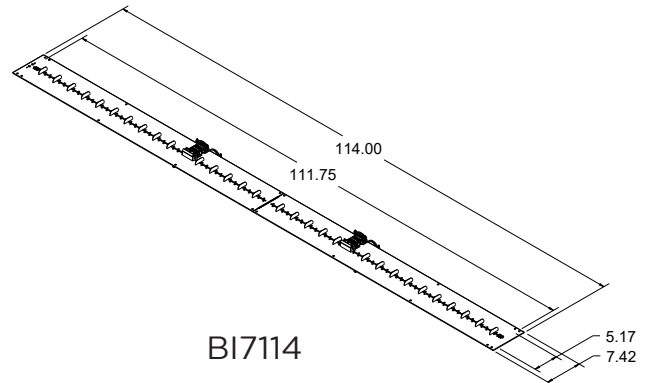
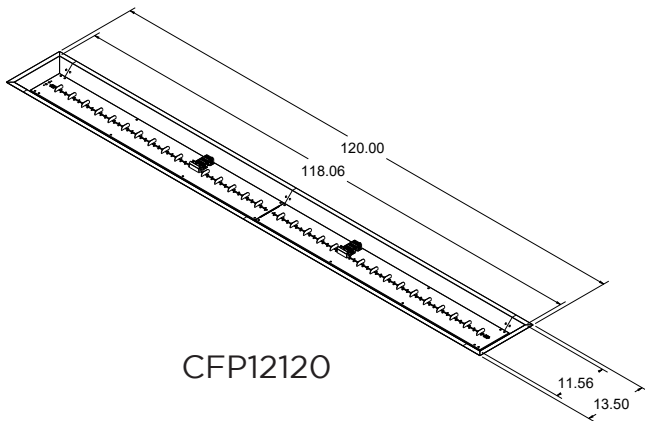
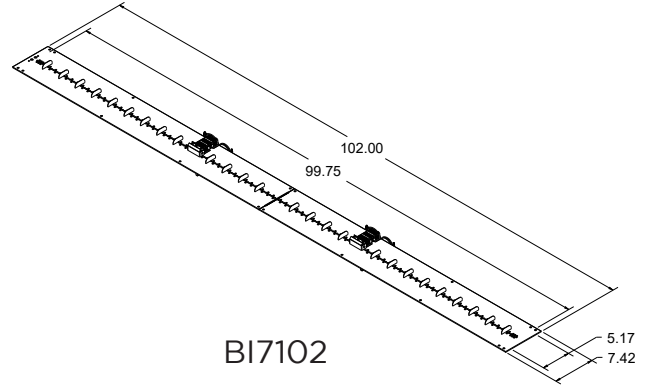
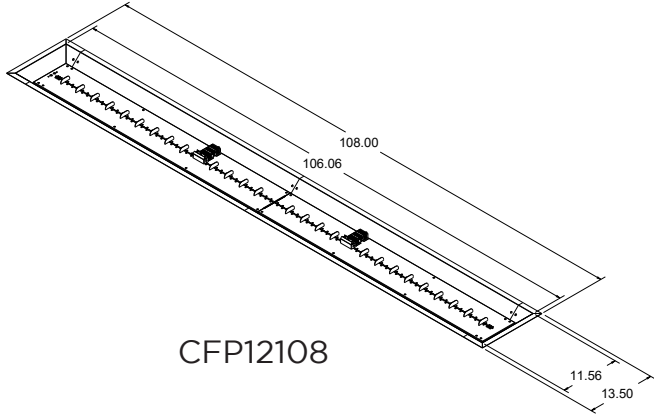


All Dimensions are in Inches





All Dimensions are in Inches



# 11

## WARRANTY INFORMATION

The Outdoor GreatRoom Company™ extends the following warranty for Outdoor GreatRoom outdoor products used in the United States of America or Canada. Dealers and employees of The Outdoor GreatRoom Company™ have no authority to make any warranty or authorize any remedies in addition to or inconsistent with the terms of this warranty. This warranty gives you specific legal rights. You may also have other rights that vary from state to state.

The Outdoor GreatRoom Company™ warrants that this Outdoor GreatRoom Outdoor Product (the “Product”) will be free from defects in material and workmanship for a period of one year from its date of purchase. Stainless steel parts and assemblies installed in a residential setting carry a limited lifetime warranty. Lifetime of the stainless parts and assemblies for residential use is defined as 10 years from time of purchase. Stainless Steel parts and assemblies installed in commercial applications carry a 5 year warranty. This warranty is subject to the conditions, exclusions and limitations described below.

This warranty applies only to the original owner and original installation of the Product and is non-transferable. The Outdoor GreatRoom Company™ obligation under this warranty does not extend to damages resulting from (1) assembly, operation or maintenance of the Product not in accordance with the Installation/Assembly Instructions, Operating Instructions and the Listing Agency Identification Label furnished with the Product; (2) installation or use which does not comply with local building codes and ordinances; (3) shipping, improper handling, improper operation, abuse, misuse, accident or unworkmanlike repairs; (4) use of fuels other than those specified in the Operating Instructions; (5) Installation or use of components not supplied with the Product or any other components not expressly authorized and approved in writing by The Outdoor GreatRoom Company™; and/or (6) modification of the Product not expressly authorized and approved in writing by The Outdoor GreatRoom Company™. (7) Not following proper maintenance of the product. Any of the circumstances described in the previous sentence voids this warranty. This warranty is void if the product or any component has been removed, repaired, or replaced before The Outdoor GreatRoom Company™ has been afforded a reasonable opportunity to inspect the Product.

This warranty is limited to the replacement or repair of defective components or workmanship and The Outdoor GreatRoom Company™ may fully discharge its obligations under this warranty by repairing or replacing, at its discretion, the defective components. The Outdoor GreatRoom Company™ will provide replacement parts at no charge and will pay reasonable and necessary labor costs related to replacing or repairing defective components under this warranty. The maximum amount recoverable under this warranty is limited to the purchase price of the Product and, if The Outdoor GreatRoom Company™ is unable to provide replacement or repair in an expedient and cost-effective manner, The Outdoor GreatRoom Company™ may discharge all obligations under this warranty by refunding the purchase price of the Product.

EXCEPT TO THE EXTENT PROVIDED BY LAW, THE OUTDOOR GREATROOM COMPANY™ MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSED HEREIN. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO THE DURATION OF THE WARRANTY SPECIFIED ABOVE. IN NO EVENT SHALL THE OUTDOOR GREATROOM COMPANY BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY DEFECTS IN THE PRODUCT. Some states do not allow imitations on how long an implied warranty lasts, or do not allow exclusion or limitation of incidental or consequential damages, so these limitations may not apply to you.

### **To obtain service under this warranty, you must:**

1. Contact your original selling dealer for warranty parts and service
2. Send written notice of the claimed condition to: The Outdoor GreatRoom Company™, 9583 217<sup>th</sup> St. W. Lakeville, MN 55044. Affirm that you are the original owner and have the original proof of purchase of the Product. Provide The Outdoor GreatRoom Company™ reasonable opportunity to investigate the claim, including reasonable opportunity to inspect the Product prior to any repair or replacement work and before the Product or any component of the Product has been removed.



| PRODUCT CATEGORY                                | WARRANTY INFORMATION   |
|---|--|
| <b>GAS FIRE PIT TABLES/CRYSTAL FIRE® BURNER</b> | Limited lifetime warranty on all stainless steel burners installed in a residential setting, and 5 years on all stainless steel burners installed in a commercial setting.<br><br>One year warranty on ignition & electronics<br><br>One year finish warranty<br><br>Three year structural warranty on all fire pit bases and tops |
| <b>OUTDOOR FIREPLACES</b>                       | Limited lifetime warranty on all stainless steel burners installed in a residential setting, and 5 years on all stainless steel burners installed in a commercial setting.<br><br>One year warranty on ignition & electronics<br><br>One year finish warranty<br><br>Five year structural warranty on all fire place enclosures    |
| <b>PERGOLAS</b>                                 | One year warranty on finish<br><br>Three year warranty on structure  |
| <b>ELECTRIC FIREPLACES</b>                      | Two year warranty on LED lighting, fan and heater system<br><br>One year warranty on remote  |
| <b>OUTDOOR FURNITURE</b>                        | Three year warranty on framework<br><br>Five year warranty on Sunbrella cushions   |
| <b>OUTDOOR KITCHENS</b>                         | Silicone grout sealant must be applied once a year<br><br>90-day parts/labor warranty on Stereo, 1-year parts warranty<br><br>One year parts and labor warranty on Refrigerator & Compressor<br><br>5 year structural warranty on bases and tops   |
| <b>ACCESSORIES</b>                              | One year warranty on protective covers<br><br>90 day warranty on glass wind guards<br><br>Limited lifetime warranty on glass wind guard brackets   |
| <b>NON-COMBUSTIBLE MANTELS</b>                  | One year warranty on finish<br><br>3 year structural warranty  |





WARNING: This product can expose you to chemicals including Carbon Monoxide and Benzene which are known to the State of California to cause cancer or birth defects or reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

