

# Boreal Complete Heat



User Manual for: BCH-1242 and BCH-1242-DSI

## CAUTION



**DO NOT DISCARD THIS MANUAL**

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



**GAS-FIRED**



## DANGER

If you smell gas:

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

## WARNING

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

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

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: For outdoor use only

## WARNING

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

**⚠ 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.\***

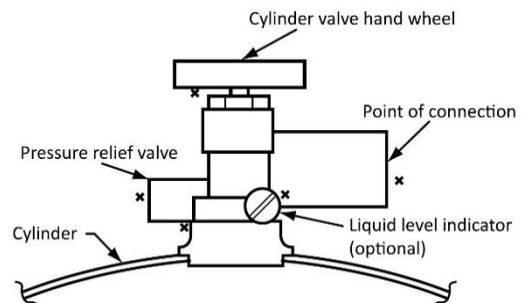
**DO NOT USE OR STORE CYLINDER IN A BUILDING,  
GARAGE, OR ENCLOSED AREA.**

**⚠ 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.

# Read this manual before installing or operating this appliance. Please retain this owner's manual for future reference.

## CONGRATULATIONS


Congratulations on selecting an Outdoor GreatRoom Company decorative gas appliance. The product you have selected is designed to provide the utmost in safety, reliability, and efficiency.

As the owner of an Outdoor GreatRoom Company Boreal Complete Heat, you'll want to read and carefully follow all of the instructions contained in this owner's manual. **Pay special attention to all cautions and warnings.**

This owner's manual should be retained for future reference. We suggest you keep it with other important documents and product manuals.

### Listing Label Information/Location

The model information regarding your specific appliance can be found inside the access door of the fire pit. See the sample rating plate below for locations of specifications.

BCH-1242 (Boreal Complete Heat)				
GAS TYPE: Liquid Propane or Natural Gas	LPG:	NAT. GAS:	Manufacturer:	
Input (Manual Ignition):	65,000 BTU/hr.	65,000 BTU/hr.	The Outdoor GreatRoom Company, LLC 14400 Southcross Dr. Suite 100 Burnsville, MN 55306	
Orifice Size:	#38	#17		
Inlet Pressure:	11 in. WC	7 in. WC		
Input (Direct Spark Ignition):	100,000 BTU/hr.	100,000 BTU/hr.		
Orifice Size:	1/8"	#7		
Inlet Pressure:	11 in. WC	7 in. WC		
Test Point Pressure:	10 in. WC	3.5 in. WC		
Input Voltage:	115 VAC	<b>For Outdoor use only. If stored indoors, detach and leave LP cylinder outdoors.</b>  <b>To be installed by an authorized person in accordance to appliance installation instructions.</b>		
Frequency:	60 Hz			
Current Input:	Less than 2 amperes			
Testing Agency:	Underwriter's Laboratory	Serial #: XX	Date of Manufacture: XX	
ANSI Z21.97-2014 CSA 2.41-2014 Outdoor Decorative Gas Appliances				

# Table of Contents

<b>1. Listing and Code Approvals</b> .....	<b>5</b>
A. Appliance Certification .....	5
B. Specifications .....	5
<b>2. Getting Started</b> .....	<b>6</b>
A. Additional Warnings .....	6
B. Design and Installation Considerations .....	7
C. Tools and Supplies Required .....	7
D. Inspect the Appliance and Components .....	7
E. Included Items .....	7
F. Additional Required Items .....	7
<b>3. Appliance Clearances</b> .....	<b>8</b>
A. Minimum Clearance to Combustibles .....	8
B. Additional Clearance Information .....	8
<b>4. Gas Setup and Information</b> .....	<b>9</b>
A. Fuel Type .....	9
B. Gas Pressure .....	9
C. Gas Supply and Connection .....	9
D. Leak Check and Line Purge .....	10
E. Additional Gas Supply Information .....	10
<b>5. Installation</b> .....	<b>11</b>
A. Electrical Connections .....	11
B. Gas Connection for Fixed Fuel Piping Systems (Manual Ignition) .....	12
C. Gas Connection for Fixed Fuel Piping Systems (Direct Spark Ignition) .....	13
D. Gas Connection for Self-Contained LP-Gas Systems .....	14
E. Media Installation and Additional Installation Information .....	15
<b>6. Lighting and Operation</b> .....	<b>16</b>
A. Manual Ignition .....	16
B. Direct Spark Ignition .....	17
C. Fan Operation .....	18
D. Normal Operating Characteristics .....	19
<b>7. Troubleshooting</b> .....	<b>20</b>
<b>8. Service and Maintenance</b> .....	<b>22</b>
A. Regular Maintenance Tasks .....	22
B. Cleaning The Appliance .....	23
<b>9. Reference Materials</b> .....	<b>24</b>
A. Service Parts List .....	24
B. Dimensional Information .....	24
C. Wiring Diagrams .....	25
<b>10. Warranty Information</b> .....	<b>26</b>

# 1 Listing and Code Approvals

## A. Appliance Certification

**MODEL:** BOREAL COMPLETE HEAT FIRE TABLE

**LABORATORY:** Underwriters Laboratories, LLC (UL LLC)

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

**STANDARD:** Outdoor Decorative Gas Appliances ANSI Z21.97-2014 \* CSA 2.41-2014

The Boreal Complete Heat and Boreal Complete Heat with Direct Spark Ignition have been tested in accordance with ANSI Z21.97-2014 and CSA 2.41-2014 for Canada and has been listed by Underwriters Laboratory, LLC (UL LLC) for installation and operation as described in these installation and operating instructions.

When appliance is connected to a fixed piping system, the installation must conform with local codes or, in the absence of local codes, 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

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		Max Input (BTU/hr.)	
	LP	NG	LP	NG
BCH-1242	#38	#17	65,000	65,000
BCH-1242-DSI	1/8"	#7	100,000	100,000
<b>Input Voltage (VAC)</b>		115		
<b>Frequency (Hz)</b>		60		
<b>Current Input (A)</b>		Less than 2		

Model	Maximum Inlet Pressure (in. WC)		Operating Pressure/Test Point Pressure (in. WC)	
	LP	NG	LP	NG
BCH-1242	11.0	7.0	11.0	7.0
BCH-1242-DSI	14.0	11.0	10.0	3.5

# 2 Getting Started

## A. Additional Warnings

This appliance is a Decorative Gas Appliance for **OUT-DOOR USE ONLY** and **MUST NOT** be used for cooking.

Place the fire pit system 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 LP 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 the appliance or placed on or near the appliance.
- Any guard, cover, or protective device removed for installation or service shall be replaced prior to operation.



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

### **WARNING**

**Asphyxiation Risk**

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

### **WARNING**

Do **NOT** use this appliance if any part of it has been underwater. Have an authorized service technician inspect the appliance and replace any part of the control system and any gas control which has been underwater.

### **CAUTION**

**Sharp Edges**

Wear protective gloves and safety glasses during installation.

### **WARNING**


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

### **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 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 instructed by the Outdoor GreatRoom Company.
- Any such action may cause a fire hazard.**

## B. Design and Installation Considerations

When planning an appliance installation, it is necessary to determine the following information before installing:

- Where will the appliance be installed?
  - See Section 3: *Appliance Clearances*
- Gas supply piping
  - See Section 4: *Gas Setup and Information*

## C. Tools and Supplies Required

Before beginning the installation and setup of the appliance, be sure that the following tools and supplies are available:

- Gloves
- Safety Glasses
- Two (2) Adjustable Wrenches
- Utility Knife
- Crowbar
- Hammer
- Non-corrosive leak-check solution

## D. Inspect the Appliance and Components

Once the necessary tools are gathered, every element and component of the appliance shall be inspected for damage before installation. **NEVER** install a damaged component. Report any damage to the manufacturer.

Review the Limited One Year Warranty information found at the end of this manual and the warnings on Page 6.

## E. Included Items

The following items are included with all *Boreal Complete Heat* fire pit tables:

- Three (3) bags of GFC-D glass media
- Two (2) lift assistance straps
- LP regulator hose (LP Models only)
- Stainless steel flex-line for connection to main gas supply

The following items are included only with *Boreal Complete Heat* fire pit tables with *Direct Spark Ignition*:

- 115 VAC/3.3 VDC Power Adaptor
- CF-DSI Direct Spark Ignition System

Optional items for all *Boreal Complete Heat* fire pit tables:

- LED Light Kit (LIGHT-KT)
- Glass Guard (GLASS GUARD-1242)

## F. Additional Required Items

The following item is required for operation on all *Boreal Complete Heat* fire pit tables:

- Outdoor rated extension cord

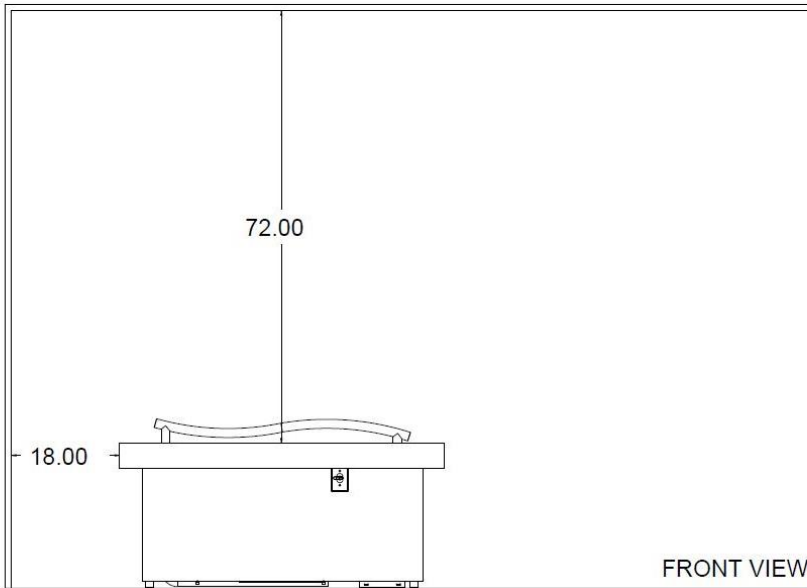
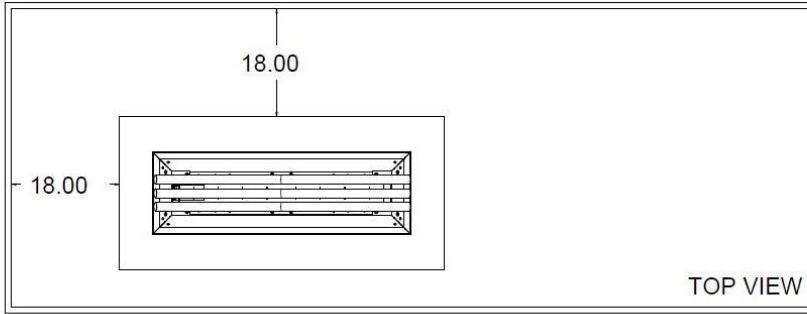
For manual ignition units, the following item is required:

- One (1) AAA battery for Piezo Sparker



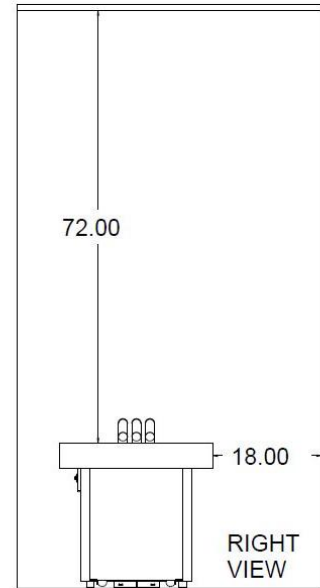
# 3 Appliance Clearances

## A. Minimum Clearance to Combustibles



### **⚠ 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.



## B. Additional Clearance Information

### **⚠ WARNING: For outdoor use only**

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

- Easy access to appliance controls
- Easy access to access door for service and maintenance
- Does not restrict walkways around appliance
- Solid and level surface

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 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.



# 4 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 pressures 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 that the appliance being installed is compatible with the available gas type.
- This appliance comes setup for a specific gas type from the manufacturer. **Field conversion from one gas type to another is not recommended.**

## 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 above and to the right. 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 ideal inlet pressure, shown in the table above and to the right.

Model	Maximum Inlet Pressure (in. WC)		Minimum Inlet Pressure (in. WC)	
	LP	NG	LP	NG
BCH-1242	11.0	7.0	8.0	3.5
BCH-1242-DSI	14.0	11.0	9.0	4.5

Model	Ideal Inlet Pressure (in. WC)	
	LP	NG
BCH-1242	11.0	7.0
BCH-1242-DSI	11.0	7.0

## 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).

## 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 system.

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

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

# 5 Installation

## A. Electrical Connections

### MAIN POWER CONNECTION

1. Position unit in desired operating location. **Ensure that minimum clearance requirements are met.**
2. Connect an outdoor rated extension cord to the internal male receptacle inside the access panel (**Image 5.1**).
3. Turn fan control switch to the “ON” position. The fan should be audible (**Image 5.2**).
4. Press the “TEST” button on the internal GFCI receptacle. The fan should shut off (**Image 5.3**).
5. Press the “RESET” button on the internal GFCI receptacle. The fan should turn on again (**Image 5.3**).
6. **Locate the extension cord out of high traffic areas to limit unnecessary wear to the cord that can result in power failure or electric shock.**

### (OPTIONAL) DIRECT SPARK IGNITION CONNECTION

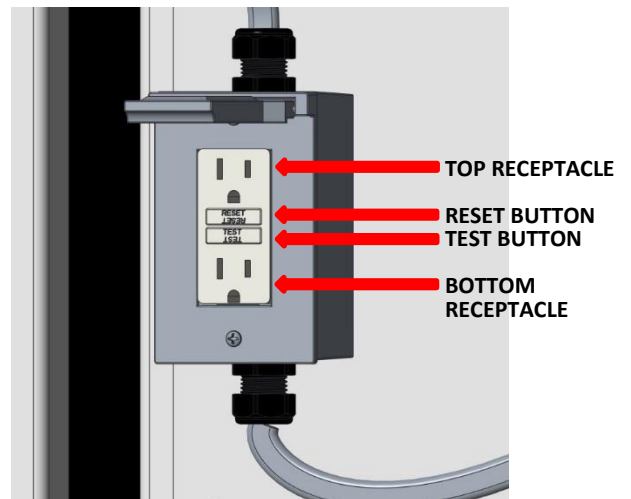
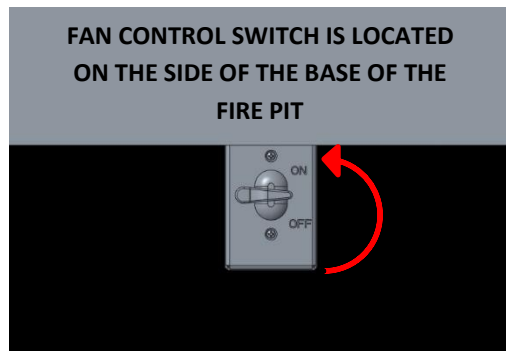
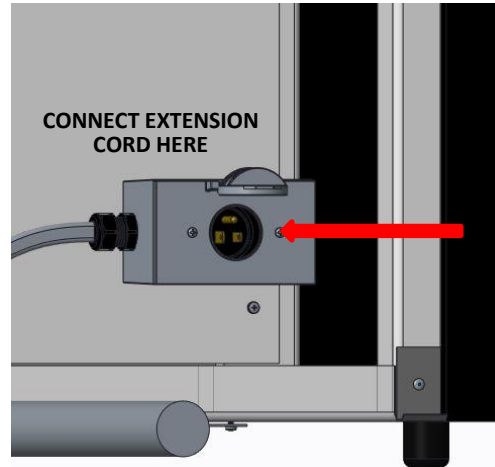
If the Boreal Complete Heat was ordered with the Crystal Fire Direct Spark Ignition System (CF-DSI), the 110VAC/3VDC power adaptor should already be connected to the internal GFCI outlet. If it is not:

7. Locate the plug of the power adaptor.
8. Connect it to the top receptacle of the GFCI outlet (**Image 5.3**).

### (OPTIONAL) LED LIGHT KIT

If the Boreal Complete Heat was ordered with the optional LED Light Kit (LIGHT-KT), the power transformer should already be connected to the internal GFCI outlet. If it is not:

9. Locate the plug of the power adaptor.
10. Connect it to the bottom receptacle of the GFCI outlet (**Image 5.3**).



If either the CF-DSI or LIGHT-KT are installed on the Boreal, please consult the individual product manuals included with the appliance for questions regarding those components.

It is possible to hardwire the unit so that an outdoor rated extension cord is not necessary. **This should only be done by a licensed professional. Contact manufacturer for supplementary hardwiring instructions.**

### ⚠ WARNING:

#### ELECTRIC SHOCK HAZARD



- Do not make modifications to the electrical wiring of this appliance.
- Disconnect appliance from power source before attempting service.
- Service should only be performed by qualified professionals.

## B. Gas Connection for Fixed Pipe Systems (Manual Ignition)

These instructions apply for both Natural Gas and Liquid Propane fixed pipe gas supplies (hard-piped installations).

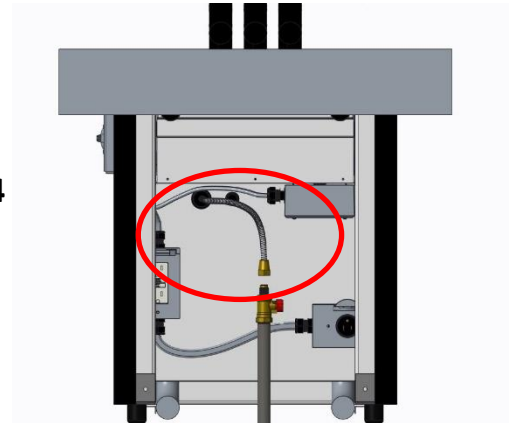
1. Locate the supplied **3/8" OD** stainless steel flex-line inside the access door of the appliance (**Image 5.4**).
2. Ensure the dedicated shutoff valve for the appliance and the appliance control valve are closed before making any connections.
3. Connect the **3/8"** female flare nut to a compatible **3/8"** male flare adaptor on the fixed pipe system. Pipe thread sealant is **NOT** required for this connection (**Image 5.5**).
4. Tighten the connection using one wrench on the flare nut and one wrench on the adaptor (**Image 5.6**).
5. Open the dedicated shutoff valve for the appliance and apply non-corrosive leak check solution to the connection between the flex-line and the fixed pipe system. Clean off residual leak check solution. **Ensure that appliance control valve is CLOSED during leak check.**
6. If no leaks are present, the gas connection is complete. If leaks are present, close the dedicated shutoff valve and check all connections, tightening as necessary. Repeat Step 5.

### **⚠ WARNING**

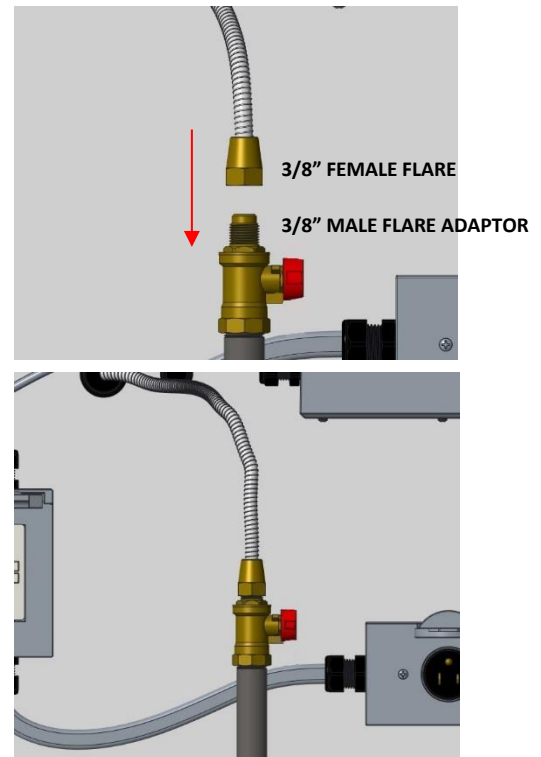
Installation and repair should be performed only by a qualified service technician.

Gas supply sizing should be performed by a qualified professional. The size of the fittings on the appliance do not dictate the size of the supply line. The supply line should be sized according to the appliance's rated output. Consult the appliance specifications on Pg. 5 of this manual.

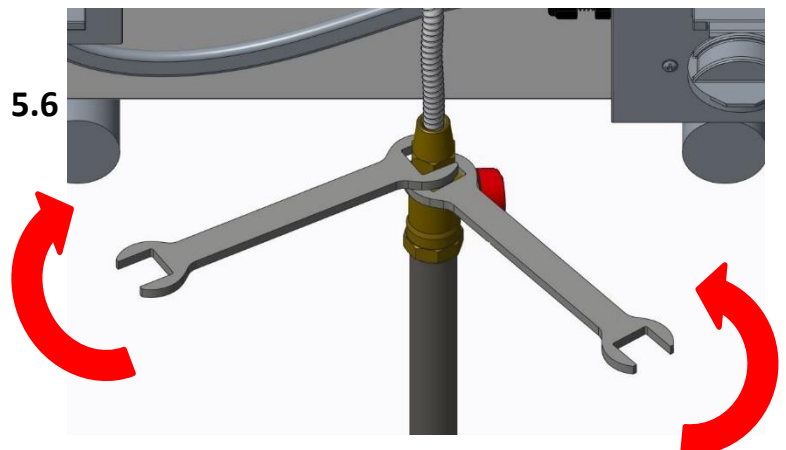
5.4



5.5



5.6

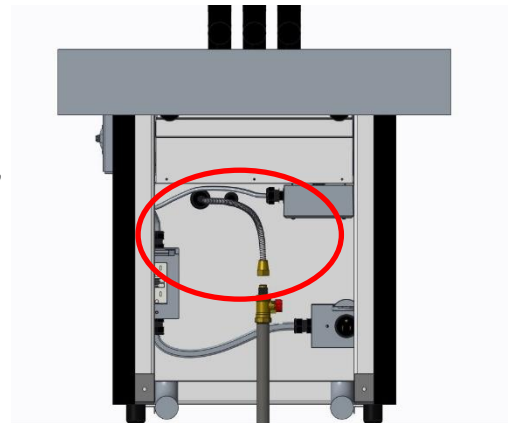


## C. Gas Connection for Fixed Pipe Systems (Direct Spark Ignition)

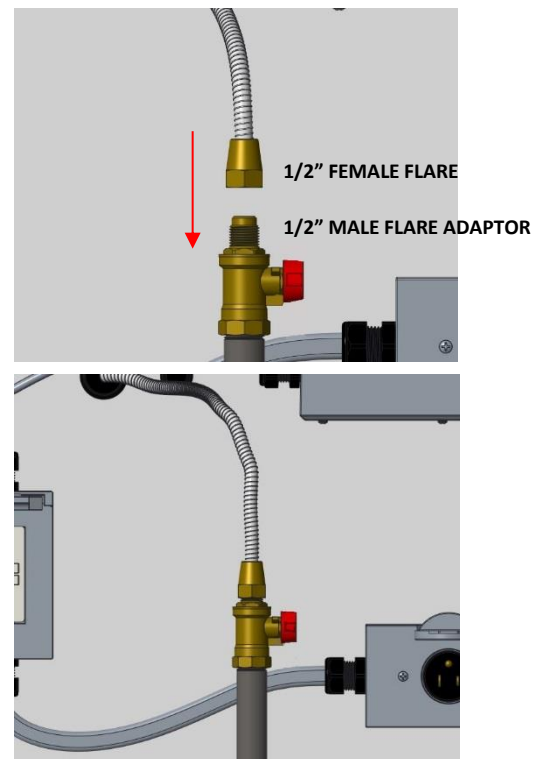
These instructions apply for both Natural Gas and Liquid Propane fixed pipe gas supplies (hard-piped installations).

1. Locate the supplied **1/2" OD** stainless steel flex-line inside the access door of the appliance (**Image 5.7**).
2. Ensure the dedicated shutoff valve for the appliance and the appliance control valve are closed before making any connections.
3. Connect the **1/2"** female flare nut to a compatible **1/2"** male flare adaptor on the fixed pipe system. Pipe thread sealant is **NOT** required for this connection (**Image 5.8**).
4. Tighten the connection using one wrench on the flare nut and one wrench on the adaptor (**Image 5.9**).
5. Open the dedicated shutoff valve for the appliance and apply non-corrosive leak check solution to the connection between the flex-line and the fixed pipe system. Clean off residual leak check solution.
6. If no leaks are present, the gas connection is complete. If leaks are present, close the dedicated shutoff valve and check all connections, tightening as necessary. Repeat Step 5.

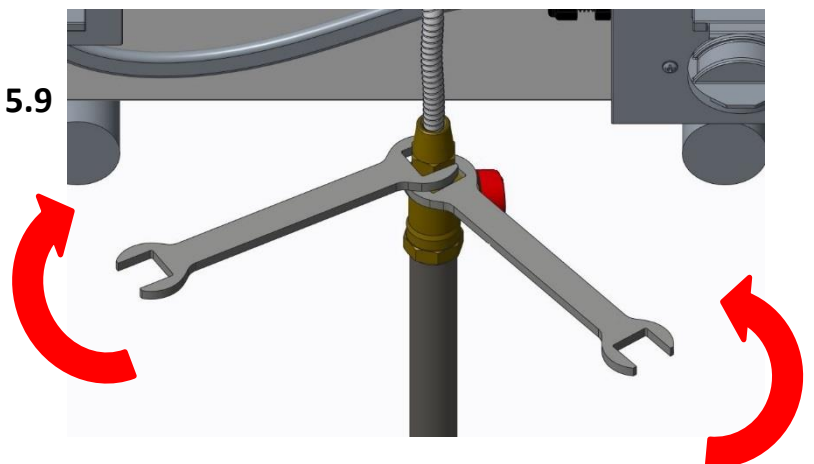
5.7



5.8



5.9



### **⚠ WARNING**

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

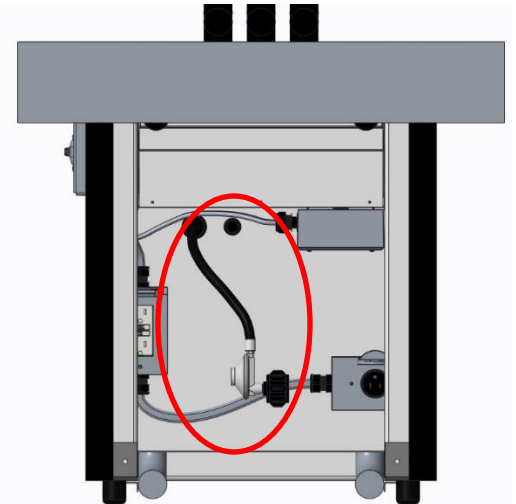
Gas supply sizing should be performed by a qualified professional. The size of the fittings on the appliance do not dictate the size of the supply line. The supply line should be sized according to the appliance's rated output. Consult the appliance specifications on Pg. 5 of this manual.

## D. Gas Connection for 20 lb. LP Tank

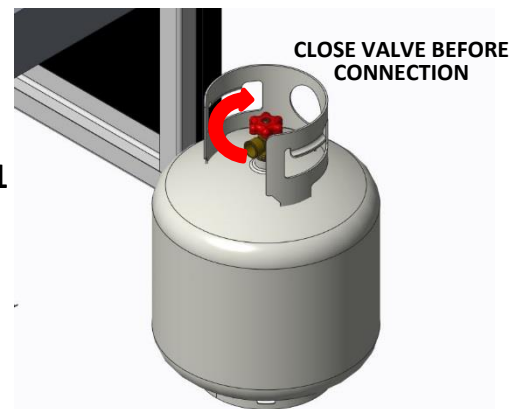
These instructions apply for both Manual and Direct Spark Ignition installations using a 20 lb. LP tank and regulator hose.

1. Locate the supplied rubber regulator hose inside the access door of the appliance (**Image 5.10**).
2. Ensure the valve on the LP tank is closed before making any connections (**Image 5.11**).
3. Connect the nut of the regulator hose to the LP tank. This connection should be hand-tightened as tightly as possible. Use of a wrench will damage the connecting nut potentially resulting in a gas leak (**Image 5.12**).
4. Open the valve on the LP tank and apply non-corrosive leak check solution to the connection between the regulator hose and the LP tank. Clean off residual leak check solution.
5. If no leaks are present, the gas connection is complete. If leaks are present, close the valve on the LP tank and disconnect and reconnect the regulator hose connecting nut. Repeat Step 4.
6. Slide LP tank into fire pit base access opening (**Image 5.13**).
7. **Locate the excess regulator hose inside the appliance access panel. This will eliminate a tripping hazard and unnecessary wear and damage to the regulator hose (Image 5.14).**

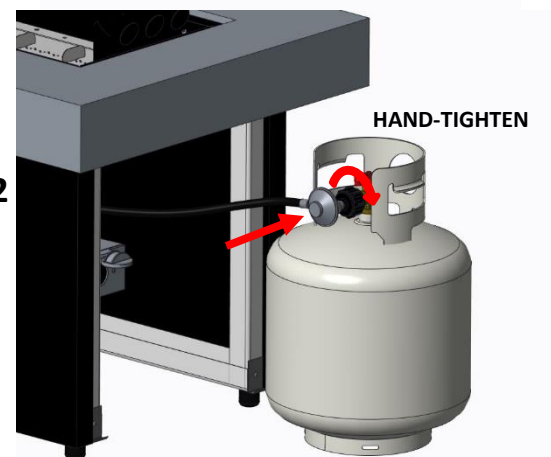
5.10



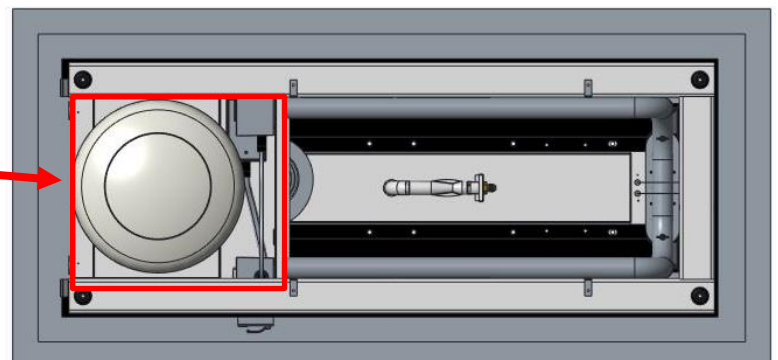
5.11



5.12



5.13



EXCESS LP HOSE SHOULD BE KEPT WITHIN BOXED REGION

5.14

### **⚠ WARNING**

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



## E. Media Installation and Other Installation Information

These instructions apply to **ALL** configurations of the Boreal Complete Heat.

1. Open the three (3) bags of supplied GFC-D glass media.
2. Empty the bags carefully onto the burner surface.
3. Spread the glass media evenly across the entire burner surface.
4. Ensure that there is a single layer of glass media inside the igniter wind guard (**Image 5.15**). Media should **NOT** be contacting the electrodes.
5. Once evenly distributed, the burner should look like the image shown on the right (**Image 5.16**).

Other media options can be used in the Boreal Complete Heat, 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.**

For Manual Ignition units, one (1) AAA battery must be installed in the push-button sparker prior to operation.

6. Unscrew only the push-button sparker cap.
7. Insert the AAA battery into the sparker as shown.
8. Screw the sparker cap back onto the push-button sparker (**Image 5.17**).
9. Test the sparker. A visible spark at the igniter as well as an audible clicking should be heard as the sparker is depressed (**Image 5.18**).

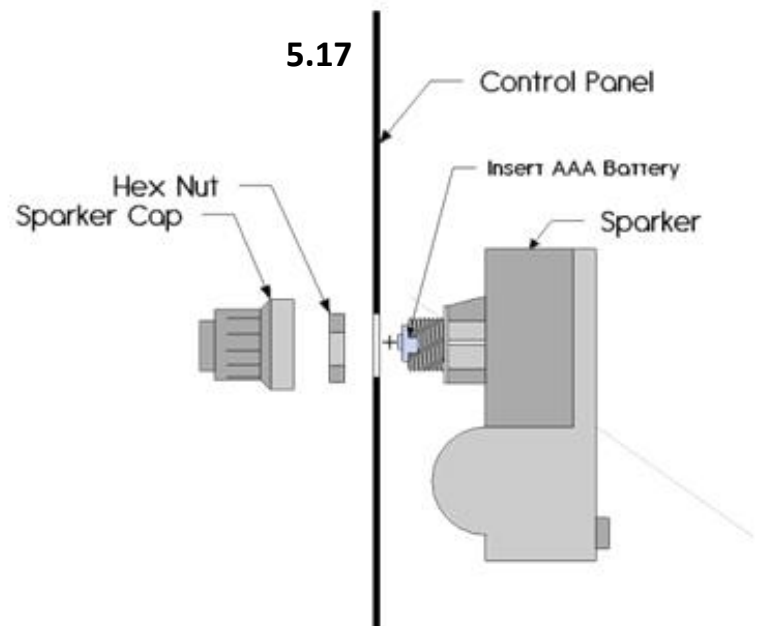
5.15



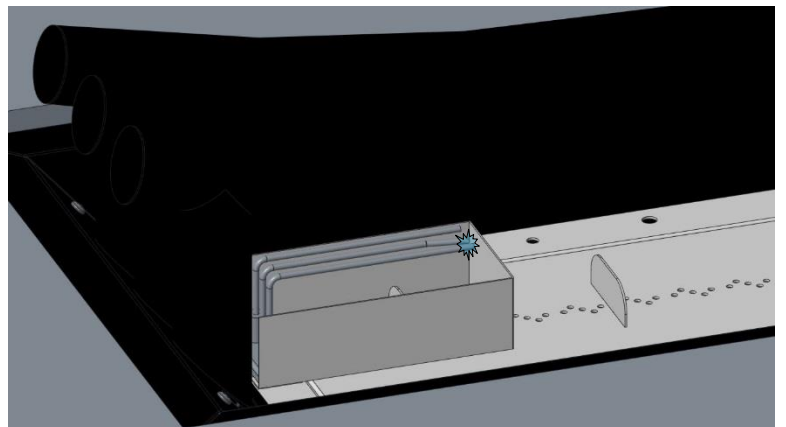
5.16



5.17



5.18





# 6 Lighting and Operation

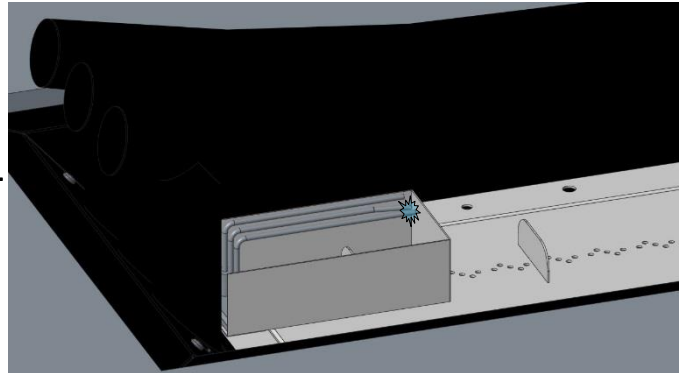
## IMPORTANT:

The Boreal Complete Heat requires an initial burn-off period of 4 hours. The first time the appliance is fired, it should be allowed to operate for 4 hours to allow residue from the coating process to burn off. After this burn-off period, once the appliance has cooled for 1 hour, the heat exchanger tubes should be wiped clean with a damp cotton rag. **ONLY USE WATER TO WIPE THE HEAT EXCHANGER TUBES.**

### A. Lighting Instructions for Manual Ignition

1. Ensure that burner and igniter is free of obstructions and debris.
2. Depress button of push-button sparker and verify that a spark is being produced between the sparking electrode and the ground electrode (**Image 6.1**).
3. Ensure that control valve is in the “OFF” position (**Image 6.2**). If using a 20 lb. LP tank, slowly open the valve on the tank (**Image 6.3**).
4. Depress button of push-button sparker and turn control valve to “ON” position while still depressing sparker. Continue holding sparker button until burner ignites. **If ignition does not occur within 15 seconds, turn control valve to “OFF” position and wait 5 minutes before attempting ignition again. This allows gas to dissipate.**
5. To extinguish, turn control valve to “OFF” position. If using a 20 lb. LP tank, **close the valve on the tank when not in use.**

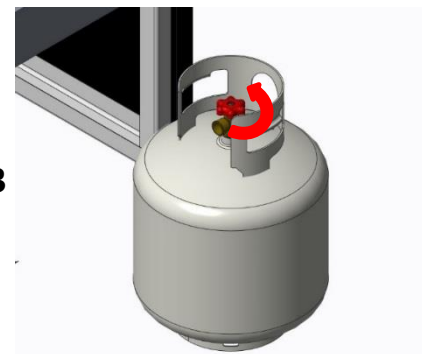
6.1



6.2



6.3



## ⚠ WARNING:

**FIRE RISK  
EXPLOSION RISK**

**Failure to follow these lighting instructions may result in delayed ignition and explosion or fire.**

## B. Lighting Instructions for Direct Spark Ignition

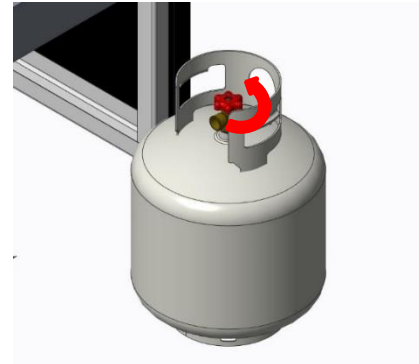
1. Ensure that burner and igniter is free of obstructions and debris.
2. If using a 20 lb. LP tank, ensure the control switch is in the “OFF” position (**Image 6.4**) and slowly open the valve on the tank (**Image 6.5**). If using a fixed pipe system ensure the dedicated supply valve is open.
3. Turn the control switch to the “ON” position (**Image 6.4**).
4. The system will begin sparking and ignition should occur within 5 seconds (**Image 6.6**). If ignition takes longer than 12 seconds, the system will shut down. **If system does not achieve ignition, turn switch to “OFF” and wait 5 minutes before reattempting ignition.**
5. To extinguish, turn control switch to the “OFF” position. If using a 20 lb. LP tank, close the valve on the tank when not in use.

For operation instructions for the CF-DSI system using the optional remote, consult the CF-DSI manual.

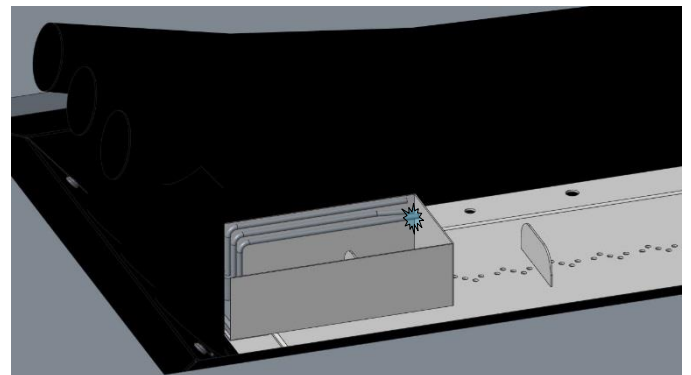
6.4



6.5



6.6



### **⚠ WARNING:**

**FIRE RISK  
EXPLOSION RISK**

**Failure to follow these lighting instructions may result in delayed ignition and explosion or fire.**

## C. Fan Operation for Optional Feet Heating

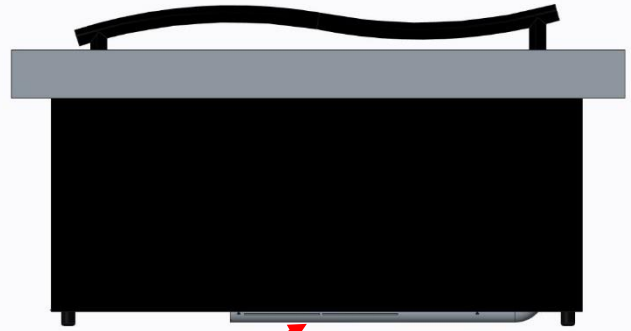
1. Ensure that vents are free from obstruction to prevent overheating of fan (Image 6.7).
2. Turn fan control switch to “ON” position (Image 6.8). Fan will be audible. With burner operating, vents will begin producing heat within 60 seconds. **Vents will only produce heat when burner is operating.**
3. Depending on ambient conditions, vents will be producing maximum heat within 5-10 minutes.
4. To turn optional feet heating off, turn the fan control switch to the “OFF” position (Image 6.9).

**It is not necessary to have fan operating while the burner is operating; however, it is highly recommended to use the fan to cool the decorative heat exchanger tubes when the burner is shut down.**

### COOL DOWN PROCEDURE:

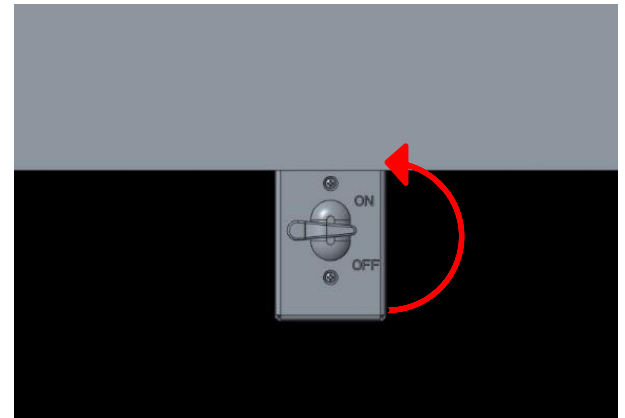
1. When burner is shut down, turn fan control switch to “ON” position.
2. Allow 30 minutes for complete cool-down.
3. Turn fan control switch to “OFF” position.

6.7

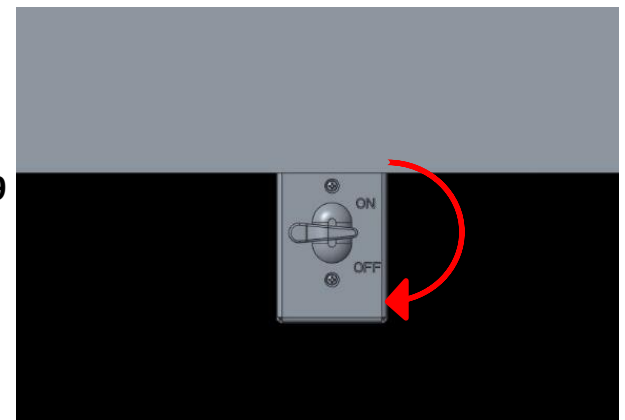


CHECK BOTH SIDES OF FIRE PIT

6.8



6.9



### **⚠ WARNING:**

- The heat exchanger tubes on the Boreal Complete Heat are at extremely high temperatures during and immediately following operation.
- Contacting heat exchanger tubes **BEFORE COOL DOWN HAS BEEN PERFORMED** can result in serious bodily injury.
- Alert all children and adults to the danger of high temperatures present on the heat exchanger tubes.

## D. Normal Operating Characteristics

### DECORATIVE HEAT EXCHANGER TUBES:

- The tubes are made from stainless steel and can withstand the heat generated by the burner.
- The high-temperature coating on the tubes requires an initial burn-off period of 4 hours to get rid of residue from the coating process.
- While the tubes are being heated, the other components of the burner are being heated as well. This can cause different rates of expansion. This expansion can cause some metallic noises. **This is normal and not a cause for concern.**
- Over time, the high-temperature coating will change color due to the presence of carbon in the flame/combustion gases. **This color change is due to a normal physical process and does not mean the coating is failing.** A reddish-brown tint and dulling of color on the matte black tubes is normal, it is not rust (Image 6.10).
- Some soot build-up on the tubes is normal and more soot build-up will occur with the use of LP than with natural gas. Soot build-up can be removed with a damp cloth (Image 6.11). **ONLY USE WATER TO CLEAN HEAT EXCHANGER TUBES.**

### BURNER AND FLAME BEHAVIOR:

- The flame is susceptible to large air movement (gusts) and drafting. This causes movement of the flame which will result in uneven heating of the heat exchanger tubes which then results in a marginal difference between the heat outputs of the two vents. **Use of the optional glass guard will minimize these effects but will not eliminate them.**
- This appliance is setup from the factory to have a cleaner burning, more blue flame. This helps to reduce the potential for soot buildup as well as increases the effectiveness of the heat exchanger tubes. This leads to more heat delivered through the optional heating vents.

6.10



EXAMPLE OF DULLING OF HEAT EXCHANGER TUBE FINISH

EXAMPLE OF COLOR CHANGE OF HEAT EXCHANGER TUBE

6.11



EXAMPLE OF POTENTIAL SOOT BUILDUP ON HEAT EXCHANGER TUBE

# 7 Troubleshooting

Symptom		Possible Causes		Corrective Actions
1.	Burner will not ignite	A.	LP tank is empty.	Replace LP tank with full tank or have LP tank filled and reattempt ignition.
		B.	LP tank OPD has been activated. This occurs when the LP tank is full and the LP tank valve is opened without first closing the appliance control valve.	Close LP tank valve and disconnect LP regulator hose from tank. Reconnect LP regulator hose to tank and open valve. Follow proper lighting procedures detailed on Pg.16.
		C.	Gas supply individual shutoff valve is closed.	Open individual shutoff valve on gas supply and reattempt ignition.
		D.	(Optional) DSI Ignition System does not have power.	Reset the internal GFCI outlet within the appliance. Check connection of external power cord to appliance and connection to power source.
		E.	Obstruction in gas pathway.	Check the burner orifice and burner neck for blockage. This should be done by a qualified service technician.
2.	Fan and accessories (Optional LED Light Kit do not turn on.	A.	115 VAC power source has failed.	Ensure that external power cord is connected to appliance. Check connection to power source.
		B.	GFCI outlet within appliance has been tripped.	Reset the internal GFCI outlet within the appliance using the RESET button.
		C.	Accessory connections are not made properly.	Ensure that LED Light Kit and CF-DSI Ignition System are connected to internal GFCI outlet.
3.	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 will be ¼" open. For LP, air shutter will be fully open.
		B.	Improper gas supply pressure.	Ensure that appliance is operating at the ideal inlet gas pressure detailed on Pg. 9. This should be done by a qualified service technician.
4.	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 will be ¼" open. For LP, air shutter will be fully open.
		B.	Improper gas supply pressure.	Ensure that appliance is operating at the ideal inlet gas pressure detailed on Pg. 9. This should be done by a qualified service technician.

5.	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.
6.	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 the dumping of liquids (beverages) into the 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.
7.	Push-button sparker makes clicking sound but no visible spark is produced.	A.	Gap between sparker electrode and ground electrode is too great.	Ensure that 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 contacting the sparking and ground electrodes.
8.	Push-button sparker makes no clicking sound and no visible spark is produced.	A.	Battery is dead or not installed.	Ensure that a new AAA battery is installed in the push-button sparker.
		B.	Gap between sparker electrode and ground electrode is too great.	Ensure that the gap between sparking electrode and ground electrode is ¼”.
		C.	Excessive media buildup around igniter.	Ensure that media installation instructions are followed and media is not contacting the sparking and ground electrodes.

**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, contact:  
The Outdoor GreatRoom Company at 1-866-303-4028**



# 8 Service and Maintenance

For service calls: Contact the dealer from which the appliance was purchased first. Contact The Outdoor GreatRoom Company at 1-866-303-4028 if further assistance is required.

## A. Regular Maintenance Tasks

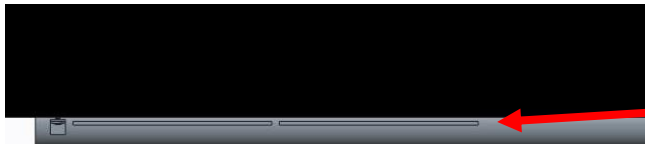
If using a self-contained LP gas supply system with the supplied LP regulator hose assembly, the hose should be inspected for damage BEFORE EACH USE OF THE APPLIANCE. If damage to the hose is present, do not operate the unit and contact the dealer or location from which the product was purchased for a replacement LP 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 heat output vents for obstruction.
  - a. Perform a visual inspection to determine if any blockage or obstruction is present.
  - b. Use compressed air to clear obstructions out of the outlet vents (**Image 8.1**).
2. Inspect burner surface for damage and debris.
  - a. Remove glass media (**Image 8.2**).
  - 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 (**Image 8.3**).
3. Inspect igniter for buildup and corrosion (**Image 8.4**).
  - a. Clean electrodes with fine-grit emery cloth.
  - b. Remove dust and debris with compressed air.

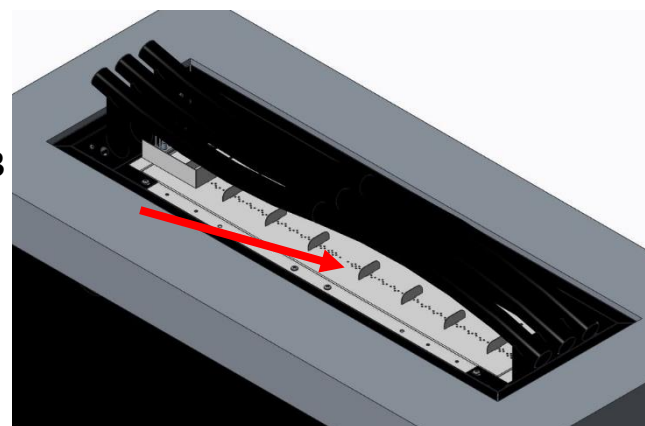
8.1



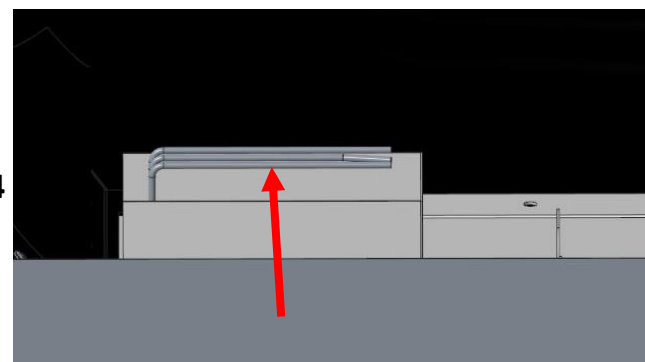
8.2



8.3



8.4



### **⚠ WARNING**

Service and maintenance should be performed only by a qualified service technician.



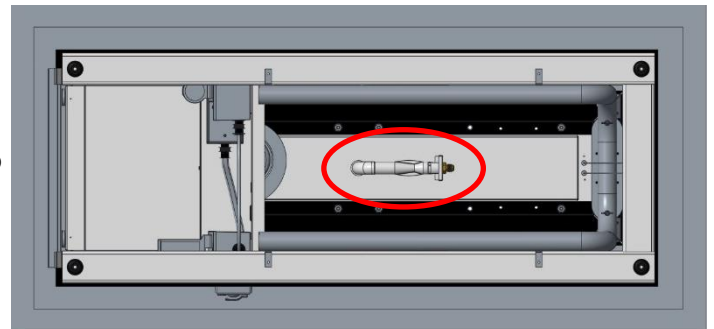
4. Inspect burner neck and orifice for obstruction.
  - c. Disconnect appliance from gas and power supply.
  - d. Elevate unit using two (2) sawhorses (**Image 8.5**).
  - e. Visually inspect burner neck and orifice for obstructions (**Image 8.6**).
  - f. Clear out obstructions with compressed air.

4. Test the GFCI outlet for proper operation.
  - a. With the appliance connected to power, turn the fan control switch the ON position.
  - b. Press the TEST button of the GFCI outlet inside the appliance (**Image 8.7**). The fan should turn off.
  - c. Press the RESET button of the GFCI outlet and the fan should turn back on (**Image 8.7**).
  - d. If GFCI outlet fails to operate in this manner, replace the GFCI outlet with the manufacturer's suggested outlet.

8.5



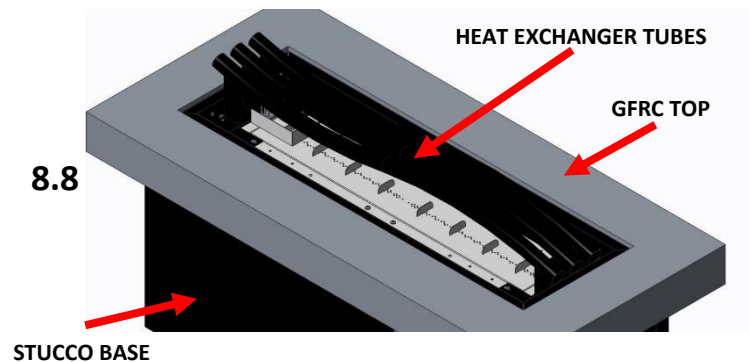
8.6



8.7



8.8



## B. Cleaning The Appliance

1. Wipe decorative heat exchanger tubes with a soft, damp cotton or microfiber cloth. **ONLY USE WATER TO CLEAN HEAT EXCHANGER TUBES (Image 8.8).**
2. Remove glass media and clean in basin of water mixed with dish soap. Allow to dry on a towel.
3. The glass fiber reinforced concrete (GFRC) top (**Image 8.8.**) should be maintained in compliance with the Supercast FAQ found at [www.outdoorrooms.com/support-faq](http://www.outdoorrooms.com/support-faq).
4. Use compressed air to remove any debris from the burner surface and stucco base (**Image 8.8**).

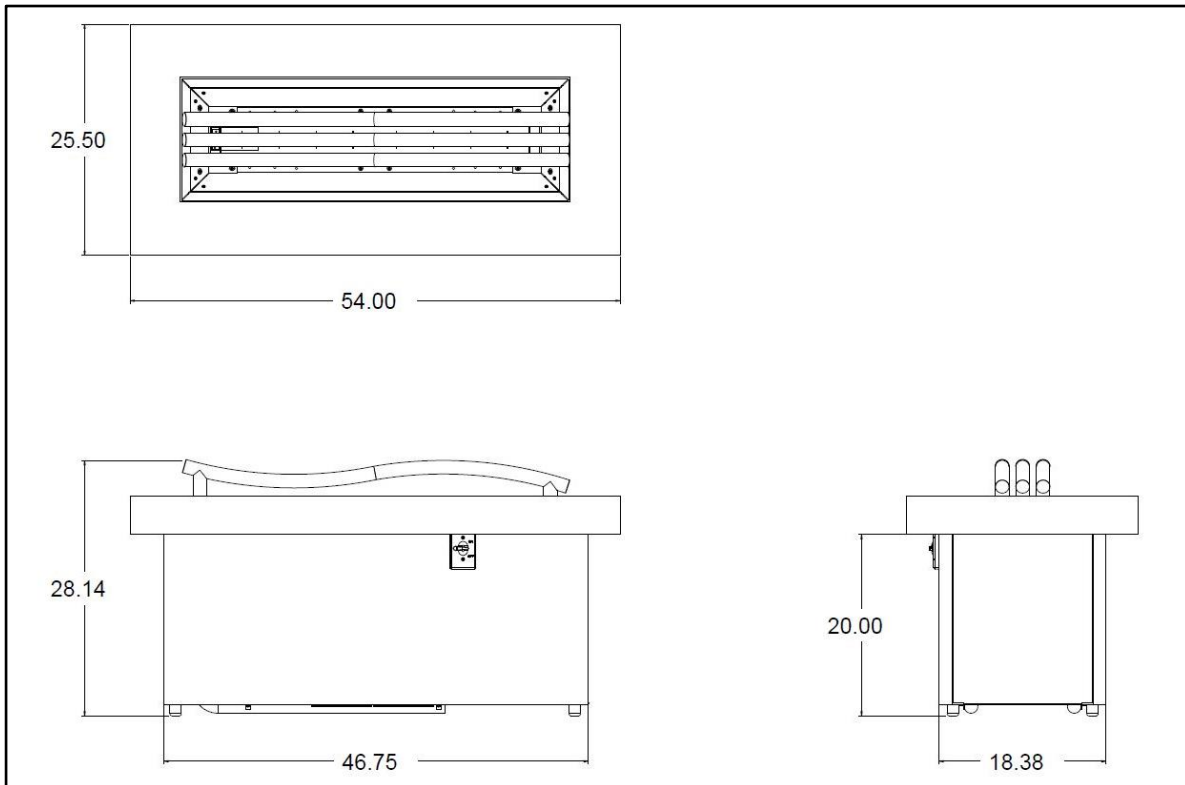
# 9 Reference Materials

## A. Service Parts List

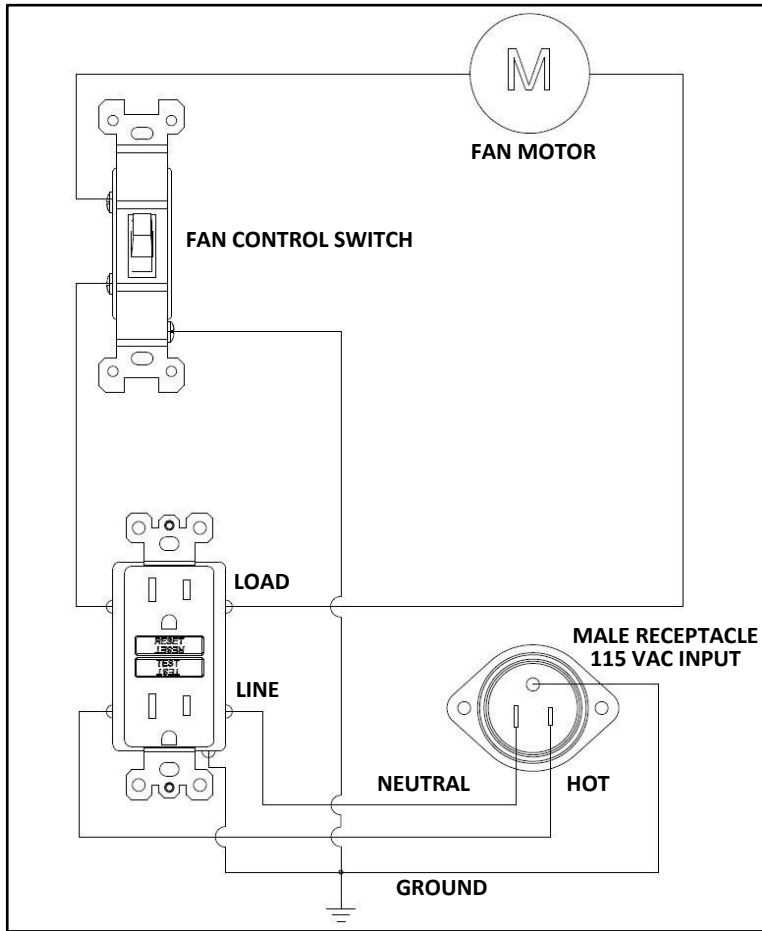
#	Part Description	Part Number
1	Replacement Crystal Fire Glass Gems (5 lb. Bag)	GFC-D
2	3-Prong Igniter	CF-2424-ELECTRODE
3	Ground Wire	CF-GROUND WIRE
4	Push-Button Sparker	CF-SPARKER
5	Fan Control Switch	CCT-1
6	GFCI Outlet	1597TRWRW
7	Male Receptacle for 115 VAC Supply	P-S 3778
8	Fan	1053-1121-ND
9	Orifice for LP Manual Ignition (#38)	# 38 ORIFICE
10	Orifice for NG Manual Ignition (#17)	# 17 ORIFICE
11	Orifice for LP with Optional DSI System (1/8")	1/8" ORIFICE
12	Orifice for NG with Optional DSI System (#7)	# 7 ORIFICE
13	Manual Appliance Control Valve	CTCP-VALVE
14	Igniter and Sensor Assembly for Optional DSI System	CF-DSI-ELECTRODE

**For a complete listing of service parts for the optional CF-DSI Ignition System and the optional LED Light Kit, consult the individual product manuals included with the appliance.**

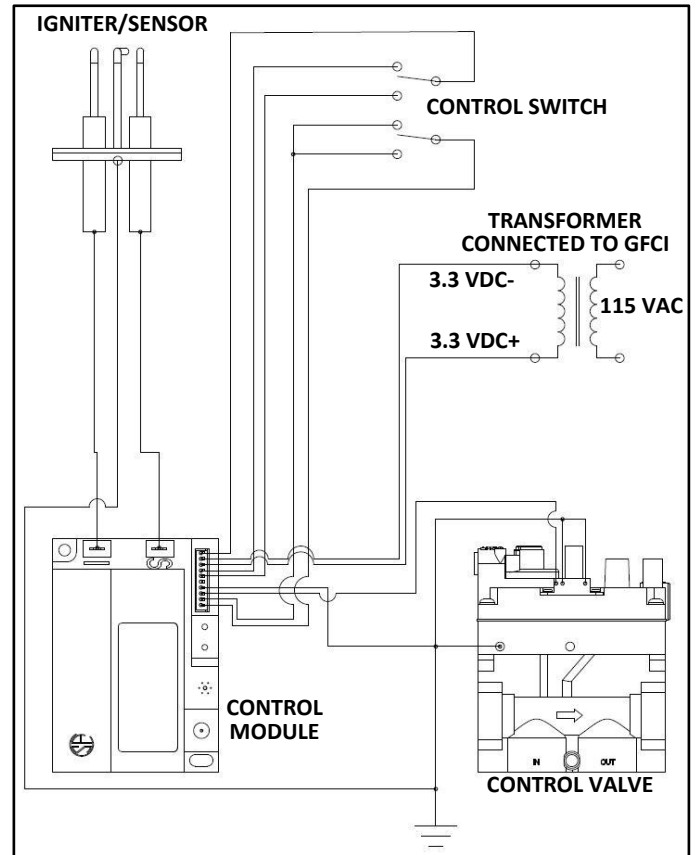
## B. Dimensional Information



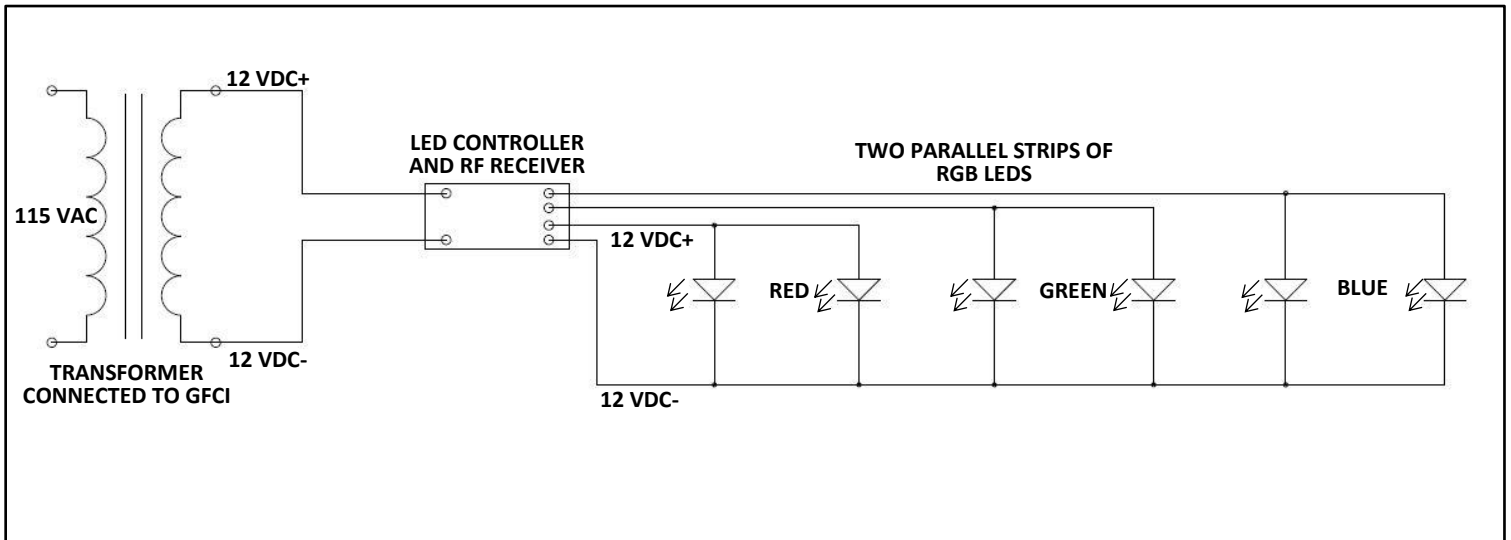
## C. Wiring Diagrams



**115 VAC CIRCUIT**



**OPTIONAL CF-DSI CIRCUIT**



**OPTIONAL LED LIGHT KIT CIRCUIT**

# 10 Warranty Information



## The Outdoor GreatRoom Company, LLC Outdoor Products Limited Warranty

The Outdoor GreatRoom Company, LLC (OGC) extends the following warranty for OGC outdoor products used in the United States of America or Canada. Dealers and employees of The Outdoor GreatRoom Company, LLC 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, LLC warrants that this OGC Outdoor Product (the "Product") will be free from defects in material and workmanship for a period of **one (1) year** from its date of purchase. Stainless steel parts and assemblies carry a **limited lifetime warranty**. This warranty is subject to the conditions, exclusions and limitations described below.

This warranty applies only to the original owner of the Product and is non-transferable. The Outdoor GreatRoom Company, LLC 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 OGC and/or (6) modification of the Product not expressly authorized and approved in writing by OGC. 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 OGC 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 OGC may fully discharge its obligations under this warranty by repairing or replacing, at its discretion, the defective components. The Outdoor GreatRoom Company, LLC will provide replacement parts at no charge and will pay reasonable and necessary labor and freight 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 OGC is unable to provide replacement or repair in an expedient and cost-effective manner OGC 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, LLC 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 limitations 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. Send written notice of the claimed condition to: The Outdoor GreatRoom Company, 14400 Southcross Dr. W, Suite 100, Burnsville, MN 55306 or contact OGC via phone at: 1-866-303-4028.
2. Affirm that you are the original owner of the Product.
3. Provide The Outdoor GreatRoom Company, LLC 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.