

PUSH-BUTTON / FLAME SENSING OUTDOOR FIREPLACE INSERT



DBOF33PBFS



LBOF33PBFS

PBFS Series

Installation & Operation Instructions



FIRE INSPIRED™

Hearth Products Controls

Fire-inspired since 1975.

630-FPPK





This is a Safety Alert Symbol

When you see this symbol on the EI Control Panel, or in this manual, look for one of the following signal word panels alerting you to the potential for personal injury, death or major property damage.



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 vicinity of this or any other appliance.

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



**DANGER
FIRE OR EXPLOSION HAZARD**

If you smell gas:

- **Shut off gas to the appliance.**
- **Extinguish an 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.



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.

INSTALLER: Leave this manual with the appliance.

CONSUMER: Retain this manual for future reference.



WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

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- Hearth Products Controls Company recommends that our products are installed by professionals locally licensed by the authority having jurisdiction in gas piping. All installation instructions must be followed to ensure proper performance and safety. Hearth Products Controls Company assumes no responsibility for problems relating to the installation.
- To qualify for warranty, all instructions must be strictly followed. Otherwise, warranty may be void. Never alter product or configuration in any way.
- Annual servicing should be handled by professionals certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists or in Canada by WETT (Wood Energy Technical Training).
- It is the installer's responsibility to ensure a safe installation and to educate the end-user regarding the features, safety recommendations and proper operation of this product.
- Please reference page 1 for all warnings.



Technical Support

For information and support contact your Hearth Products Controls dealer.

1 Important Safety Information

Symbol Legend



This is a Safety Alert Symbol

When you see this symbol on the fireplace insert, or in this manual, look for one of the following signal word panels alerting you to the potential for personal injury, death or major property damage.



Necessary instructions



1 Important Safety Information

Please reference page 1 for all warnings.

Important Safety Information for Installers

Leave this manual with the end-user and instruct them to retain it for future reference. Instructions and product updates are also available at www.hpcfire.com under the Support tab.

Installers must carefully follow the instructions in this manual to prevent personal injury or property loss. These instructions contain information critical to the safe installation and operation of the fireplace Insert.

- Instructions are updated as needed. It is the responsibility of the installers to check for product updates and installation manual updates at www.hpcfire.com/support.html prior to installation.
- It is the responsibility of the installer to follow:
 - The National Fuel Gas Code, ANSI Z223.1/NFPA 54 or International Fuel Gas Code.
 - Natural Gas and Propane Installation Code CSAB149.1 or CSA B149.2
 - The National Electrical Code, ANSI/NFPA 70. In Canada, Canadian Electrical Code CSA 22.1.
 - Local codes

Gas

- Only use gas/fuel type specified for this fireplace Insert as noted on the fire pit control box label. NEVER use an alternative fuel to include bio-fuel, ethanol, lighter fluid or any other fuel.
- Gas pressure and type should be checked prior to installation and use.
 - **Natural Gas Fire Pit:** Supply Pressure: Minimum: 6.0 inches W.C for input adjustment.; Maximum: 7.0 inches W.C.
 - **LP Gas:** Supply Pressure: Minimum: 8.0 inches W.C for input adjustment.; Maximum: 11.0 inches W.C.

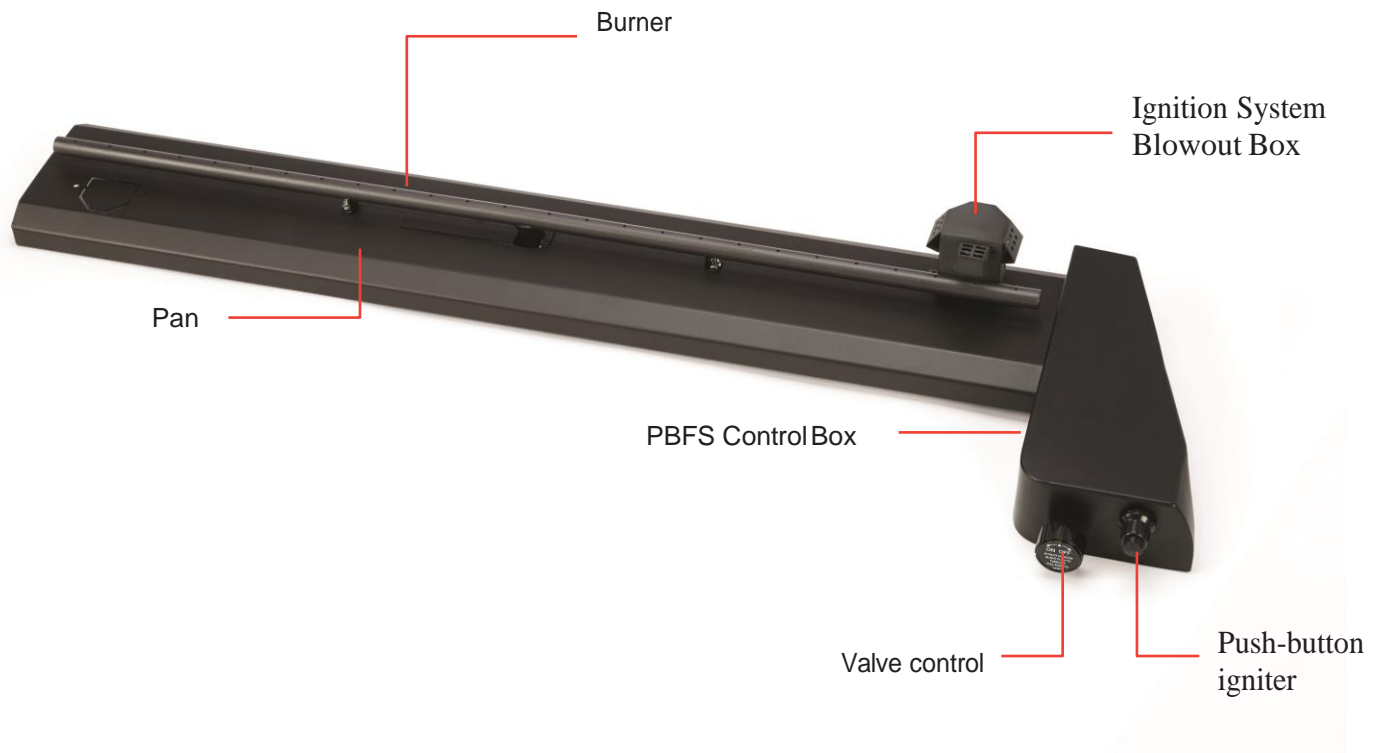
Important Safety Information for End-Users

- Never leave an operating fireplace unattended or with someone not familiar with its operation or emergency shut-off locations.
- Both children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns and clothing ignition.
- Young children should be carefully supervised when they are in the area of the fireplace.
- Keep the appliance area clear and free from combustible materials, gasoline, and other flammable vapors and liquids.



2 Product Features and Parts List

Fireplace Insert
Installation and Operation Instructions



3 Selecting the Fireplace Insert Location

NOTE: All fireplace inserts and systems are designed and intended for outdoor use only.

IMPORTANT

It is recommended that material such as granite, marble or other dense stone be kept away from heat and especially flame due to risk of cracking. HPC is not responsible for damage resulting from failure to follow these recommendations.

- Select a location that
 - ensures above-grade installation of the fireplace insert.
 - allows easy access for installation and maintenance of the fireplace insert.
 - provides sufficient horizontal room to enjoy the fireplace insert while allowing a safe distance from the heat and flame.
- Fireplace inserts create very high temperatures. For clearances refer to table 4.1. Clothing or other flammable materials should not be placed on or near fire pit.

4 Minimum Fireplace Cavity Size

Clearances around Fireplace Insert

It's important to review the clearance requirements below for any type of overhead structure to ensure that the distances are met. Figures 4.1

PART NUMBERS	MINIMUM FIREPLACE CAVITY SIZE		
	HEIGHT (A)	FRONT OPENING WIDTH (B)	DEPTH (C)
DBOF22EI	18"	36"	18"
DBOF28EI	18"	42"	18"
LBOF22EI	18"	26"	18"
LBOF28EI	18"	42"	18"
LBOF46EI	18"	60"	18"
LBOF58EI	18"	72"	18"
LBOF70EI	18"	84"	18"
LBOF82EI	18"	96"	18"

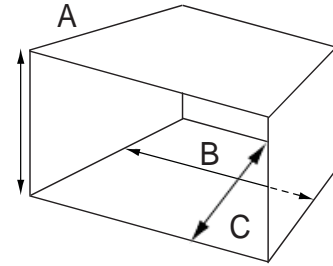


Table 4.2 – Cavity dimension key

Table 4.1 – Clearances for standard fire pit up to 200k BTU

We recommend all mantels made from noncombustible material. If using combustible materials, follow the guidelines below. Table 4.3.

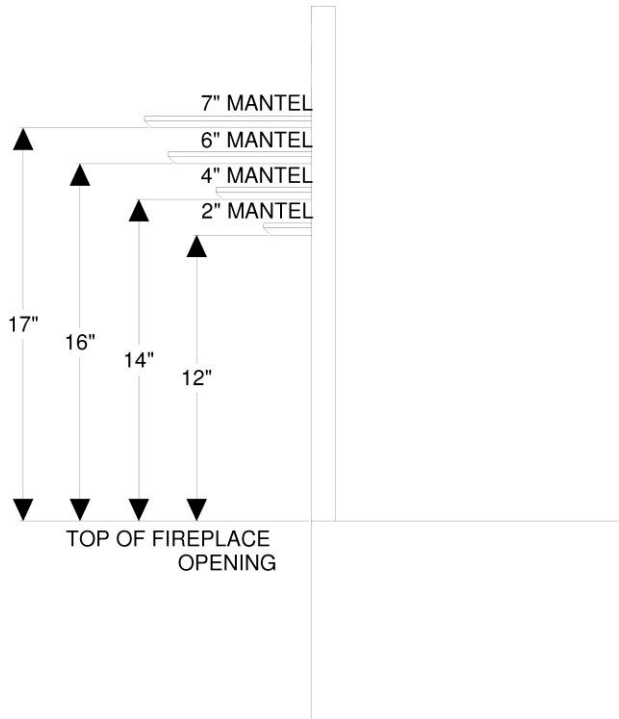


Table 4.3 – Combustible Materials clearances for mantels

5 Fireplace Enclosure Requirements

Location and design

- Refer to cut sheets on our website for important dimensional information for your fireplace insert. Visit www.hpcfire.com
- It is recommended that material such as granite, marble or other dense stone be kept away from heat and especially flame due to risk of cracking. Manufacturer is not responsible for damage.
- The enclosure must be constructed on a stable surface and be level.
- The product must be accessible for service.

NOTE: HPC cannot guarantee the fireplace insert pan on all of our products will be perfectly flat and will not warp due to heat.

Gas

- Fireplace must have a gas shutoff on the exterior of the fireplace to allow for emergency shut off and maintenance. The gas shutoff should NOT be used to adjust flame height.
- Fuel line sizing is the responsibility of the installer and must be able to supply the stated maximum BTU for the product – refer to product label on fireplace insert
- Gas lines should be behind or to the side of the fireplace insert. See Figure 5.1. Center fireplace in opening.

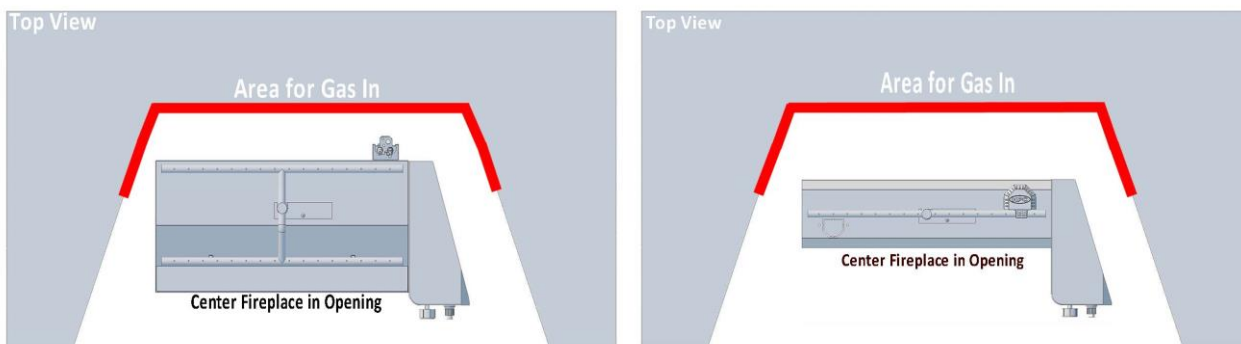


Figure 5.1 – Gas lines and fireplace locations

5 Fireplace Enclosure Requirements

Construction materials

- Use non-combustible materials and construction for gas supply, power and enclosure.

Fuel line

- Fireplace must have a gas shutoff on the outside of the exterior of the fireplace to allow for emergency shut off and maintenance. The gas shutoff should not be used to adjust flame height.
- The installer is responsible for using the correct fuel line sizing that is able to supply the stated maximum BTU for the product—refer to product label on the fire pit for specifications.

6 Installing the Fireplace Insert

INSTALLATION

We suggest that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.

IMPORTANT

To prevent damage, isolate the appliance when performing any pressure testing.

IMPORTANT

Burn Testing: It is the responsibility of the qualified installer to test for gas leaks at all connections.

IMPORTANT

Gas Plumbing Connections: Use joint compound or tape that is resistant to all gases. Apply joint compound only to all male pipe fittings. **DO NOT use on flex line flared fittings.** Be sure to tighten every joint securely.

- Perform all leak tests with leak detector or leak reactant.

Installation Steps:

1. Set fireplace insert in properly constructed enclosure, read **Section 5 – Fireplace Enclosure Requirements.**
2. Position fireplace insert following safety recommendations with access to all gas connections for testing. Read **Section 3 – Selecting the Fireplace Insert Location for more details.**
3. Shut off gas supply to fireplace insert.
4. Connect fireplace insert to main gas supply. Warning: avoid sharp bends with flex line to prevent whistling.
5. Turn on gas supply, purge gas lines of air and perform leak test on all inlet connections. Repair as needed.
6. Light fireplace insert. It may take several cycles to purge air from the lines. Read **Section 9 – Operating the Fireplace insert.**
7. Once fireplace insert is lit, perform leak test on all gas connections. Repair as needed.
8. Turn off fireplace insert and allow it to cool.
9. Apply media as described in **Section 8, Adding Approved Media.** When filling the pan with lava rock and/or decorative glass, the instructions in Section 8 must be followed.
10. Turn on fireplace insert again and perform leak test with media correctly installed. If gas leak is detected verify correct media application and repair as needed.
11. Verify correct operation and lighting.
12. Review safety manual with end-user. Instruct end-user that fireplace insert or media must not be changed or modified.
13. Leave manual with end user.
14. Apply the Start Up and Shutdown decal next to control box in an obvious and highly visible position.

7 Adding Approved Media



WARNING

FOR GLASS MEDIA USAGE WITH LP GAS- WHEN USING APPROVED DECORATIVE GLASS TO COVER BURNER APPLY ONLY ENOUGH TO HIDE BURNER. APPLYING OVER 1/2" MAY CREATE BACK PRESSURE AND GAS LEAKAGE FROM AIR MIXER RESULTING IN LP POOLING.



WARNING

FOR GLASS MEDIA USAGE WITH LP GAS- THE UNIT MUST BE TESTED WITH MEDIA OVER BURNER FOR CONFIRMATION OF NO BACK PRESSURE CREATING GAS TO LEAK OUT OF AIR MIXER VENTURI HOLES.



WARNING

NEVER USE ANY MATERIAL THAT IS NON-POROUS OR HOLDS MOISTURE SUCH AS GRAVEL, PEBBLES, RIVER ROCK, ETC. WHEN HEATED, NON-POROUS MATERIAL WILL NOT ALLOW HEATED STEAM TO READILY ESCAPE WHICH CAN BREAK AND CAUSE PERSONAL INJURY OR DAMAGE. MATERIAL THAT HOLDS MOISTURE CAN BOIL AND FRACTURE UNEXPECTEDLY WHEN EXPOSED TO HEAT.

IMPORTANT

The fireplace insert is designed to use approved media correctly installed over the burner to achieve proper combustion.

- Never install a mesh or screen under the media.
- Media affects flame pattern greatly. It is possible to create an unusual flame pattern that could damage your enclosure. Enclosure damage from an open flame fire feature is not covered under any warranty.

7 Adding Approved Media

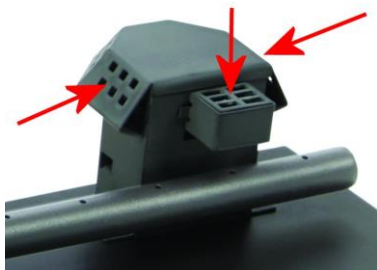
Application of Approved Media

Please follow the instructions below to add the finishing touch to your fireplace insert. Particular attention needs to be on the pilot assembly area.

Incorrect media installation will cause the pilot flame to suffocate and turn off fireplace insert or delay main burner ignition.

Lava Rock Only Application

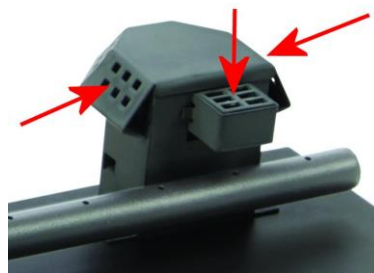
- 1) Install your fireplace insert per instructions.
- 2) Apply lava rock ONLY deep enough to cover ring.
- 1) Blowout Box: Leave vents open. Do not cover vents with lava rock or allow any rock to block flame opening. Incorrect media installation will cause the pilot flame to suffocate and turn off fireplace insert or delay main burner ignition.



DO NOT COVER THE VENTS

Decorative Glass Application

- 1) Install your fireplace insert per instructions.
- 2) Fill pan with media. Cover burner with 1/4 to 1/2 inches of glass. Do not overfill pan with glass. All LP installations must be checked for back pressure with media installed. Failure to do so may result in personal injury or property damage.
- 3) Blowout Box: Do not cover blowout box vents or opening with glass. Incorrect media installation will cause the pilot flame to suffocate and turn off fireplace insert or delay main burner ignition.



DO NOT COVER THE VENTS

8 Operating the Fireplace Insert

- Before use, be sure to test all gas connections for leaks. Do not use fireplace insert if there is any evidence of leaking gas. If leaking gas suspected, turn off the main gas supply and repair immediately.
- Do not use the enclosure as a seating area. Wind and gusty conditions will affect the flame in an unpredictable manner. If conditions exist that are not safe for patrons, turn off the fireplace inset.
- The hose should be inspected before each use of the fireplace insert and replaced prior to use if there is evidence of excessive abrasion or wear or if the hose is damaged. The replacement hose assembly shall be that specified by the manufacturer.
- Do not use the fireplace insert if any part has been under water. Immediately call a qualified service technician to inspect the fireplace insert and to replace any part of the control system and any gas control that has been under water.
- Never use any material that is non-porous and holds moisture such as gravel, pebbles, river rock, etc. This material, when heated will cause the trapped moisture to boil and fracture unexpectedly. This material is not sufficiently porous to allow heated steam to readily escape which can break and cause personal injury or damage.
- Solid fuels shall not be burned in the fireplace insert.
- Leaves, sticks, wood, paper, clothing, food material, should be kept away from the fireplace insert. Clothing or other flammable materials should not be hung from the appliance or placed on or near the appliance. Keep the appliance area free from gasoline, and other flammable vapors and liquids.
- Fireplace insert is not for cooking.
- Make sure that there is no vegetation or other objects over the top or sides of the fireplace insert that could interfere with safe operation. See clearances in **Section 3 – Selecting the Fire Pit Location.**
- If lava rock is wet, allow the fireplace insert to burn for 45 minutes prior to coming within 15 feet of the fireplace insert.
- When the fireplace insert is not in operation, turn off gas valve.
- When not in use, the fireplace insert must be covered at all times.



DBOF inserts height adjustments are located on the rear of the pan. Adjust height as needed, not necessary, to achieve the desired flame presence.



8 Operating the Fireplace Insert

PBFS Push-Button Flame Sensing Start-up

1. STOP! Read the safety information on "If you smell gas," **Section 1 – Important Safety Information.**
2. Ensure fireplace insert is clear of people and debris. Remove any covers and the fireplace insert is safe to start.
3. Turn gas supply valve to fireplace insert to ON position
4. Rotate gas valve knob counter clockwise to pilot light position
5. Depress and hold the valve knob.
6. Turn ON spark igniter by depressing switch in short burst until pilot lights.
7. Once lit, release switch for spark igniter while continuing to depress valve knob for 20 seconds.
8. Turn knob counter clockwise to light main burner.

NOTE: If the burner fails to light, wait 5 minutes for gas to clear, and then repeat steps 3-8.

9. Ensure fireplace insert, children and patrons are supervised by a responsible adult who is familiar with emergency shut-down.
10. Flammable materials should not be placed on or near the fireplace insert.



DANGER

If you smell gas:

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

PBFS Shutdown

1. Turn "off" fireplace insert by slightly pressing and turning valve clockwise to "OFF" position
2. Slightly push in and turn clockwise to extinguish pilot,.
3. Turn off main gas valve to fireplace insert
4. After fireplace insert has cooled, cover fireplace.



PBFS Ignition Sequence

9 Maintaining the Fireplace Insert

- Any guard or protective device removed for servicing must be replaced prior to operating the fireplace insert.
- We suggest that our products be serviced annually by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.
- Ensure gas is shut off and fireplace insert is cool before servicing. In some areas of the country, spiders or insects have been known to build nests and/or lay eggs in the venturi holes of the air-mixer for LP units. This can cause fuel to fill the fire feature cavity and result in personal injury or property damage. Periodic inspection by a qualified service technician of the air-mixer is required to ensure your fire feature performs properly, Figure 10.1.
- **Burner Cleaning: One time a year.** If flames exhibit any abnormal shapes or behavior, or if burner fails to ignite properly, then the burner holes may require cleaning. The appliance can be cleaned by carefully removing the logs and media to allow access to burner. Use a brush to carefully remove dust, spider webs, and loose particles from base, logs, and fire ring itself. If evidence of damage, fire ring must be replaced with fire ring specified by the manufacturer.
- **Thermocouple cleaning of soot: Once every six months or as needed.** Remove lava rock & glass around pilot, then the blowout box lid. Clean thermocouple of any soot using soft brush. Be careful not to damage hot wire element. Place lava rock or glass back as explained in **Section 8 – Adding Approved Media.**
- **Visually inspect the pilot.** The pilot flame should cover 3/8 inch to 1/2 inch of the thermocouple, Figure 10.2. Cleaning of the pilot orifice may be required by removing pilot hood counter clockwise and removing orifice, Figure 10.3.

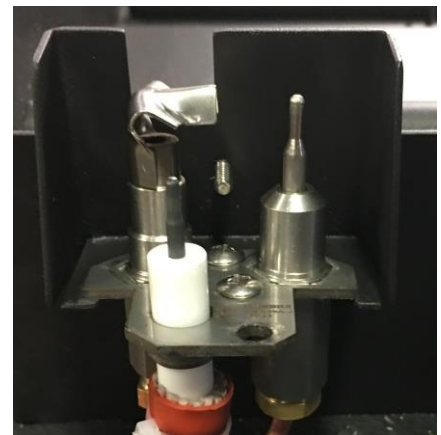
Service



We suggest that our products be serviced by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.



LBOF Fireplace Inserts



DBOF Fireplace Inserts

9 Maintaining the Fireplace Insert

Installing / Changing Batteries to Spark Igniter Unit in Valve Box

Carefully unscrew the spark igniter unit cap, Figure 9.1.

1. Remove cap with battery, Figure 9.2.
2. Remove old battery from cap, install new battery
3. Slide battery into spark igniter unit, Figure 9.3.
4. Tighten cap lightly- DO NOT over tighten.

We recommend using Alkaline battery.



Figure 9.1



Figure 9.2



Figure 9.3

10 Troubleshooting

Table 11.1, below indicates some potential causes and countermeasures to the symptoms indicated in bold type. **Please contact your retailer or certified technician for service and repair.**

Service



We suggest that our products be serviced by a professional certified in the US by the National Fireplace Institute (NFI) as NFI Gas Specialists.

Problem	Possible Causes	Solution
Pilot Will Not Light	Air in gas line	New install - may take several attempts Check gas level of LP tank
	No gas flow - gas not ON or line obstruction	Confirm gas is ON upstream Possible debris in line: insulation, dirt, plastic, etc.
	Pilot orifice dirty or clogged	Remove orifice and clean (Section 10)
Pilot will not light with spark igniter but will light with a match	Dead or incorrectly installed battery	Replace properly with good AA battery (Section 10)
	Improper gap at electrode tip	The gap can be adjusted by bending the tip in or out while holding electrode stable above ceramic block to achieve spark
Pilot will not stay lit when control knob released	Knob not being held in long enough	Thermocouple must have time to heat up. Hold the knob in for 30 seconds after pilot lights.
	Small pilot flame: pilot orifice dirty or clogged	Remove pilot orifice and clean
	Dirty thermocouple	Clean using soft brush (Section 10)
	Faulty thermocouple or valve	Replace thermocouple or valve
Burner will not stay lit	Gas pressure improper	Confirm proper gas pressure (See Section 1 – Important Information for Installers)
	Burner obstructed	Confirm no water or debris in burner
	Improperly applied or too much media	Re-apply media (Section 8)
	Too windy	Use when less windy or with our wind guard (See page 24, Figure 12.1)
Low flame when turned to High	Gas pressure improper	Confirm proper gas pressure (See Section 1 – Important Information for Installers)
	Propane (LP) - Improper lighting procedure	Fire pit valve must be OFF when tank is turned ON. Turn ON tank slowly to allow pressure to equalize
	Lack of gas	Check gas level of LP tank
	Supply hose is pinched	Reposition supply hose as necessary
	Natural Gas (NG) - undersized gas supply line	Gas pipe, flex line, shutoff valve, etc. must be sized to deliver fire pit input pressure & BTU requirement
Flame is creating large amount of soot	Propane (LP) - mesh spider guard or venturis are blocked with debris - grass, dirt, etc.	Thoroughly clean spider guard - (Section 10)
Noise when lit	Whistling - flex line bent too sharp	Re-route flex line to reduce bend
	Propane (LP) - Humming regulator	Not a defect - normal occurrence on hot days due to internal vibrations in regulator

Table 11.1 – Troubleshooting

11 Compatible Accessories

Please contact your dealer for parts – if unsure please contact HPC or visit our website at www.hpcfire.com and we will be happy to help you.

12 Replacement Parts

Please contact your dealer for parts – if unsure please contact HPC or visit our website at www.hpcfire.com and we will be happy to help you

13 Warranty

Warranty

Hearth Products Controls Co. (HPC) warrants fire pits against manufacturing defects that prevent safe and correct function as follows:

1) **Stainless Steel Fire Pit and Outdoor Fireplace Burners - Lifetime Warranty**

Limited Warranty:

2) Electronics, Gas Valve: Commercial-1 year; Residential-3 year.

3) Pilot Assembly: Commercial-1 year; Residential-2 year.

Stainless Steel Pan, Valve Box: Commercial-1 year; Residential-5 years

Warranty commences from the date of original sale / shipment from HPC FOB Dayton, Ohio. This warranty is for parts and in-house (HPC) labor. The defective product must be sent back to HPC with a Return Merchandise Authorization (RMA) issued by HPC for that specific product and any other additional information for the nature of the defect or warranty claim. The warranty does not cover items that have been damaged by overheating, modification, abuse, or improper storage. Also any labor involving installation or maintenance with the unit is not covered. This warranty excludes claims for consequential, indirect-collateral expenses arising from product defects or warranty recovery.

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FIRE INSPIRED™

Hearth Products Controls

Fire-inspired since 1975.

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For detailed product information, go to www.hpcfire.com