

Cal Flame®

A Division of LMS, Inc.

Fireplaces and Firepits
United States and Canada

Owner's Manual



Cal Spas Home Resort™

www.calflamebbq.com



Installation

Placement and Location	6
Leak Testing Procedure.	7
Liquid Propane.	8
Propane Cylinder Enclosure	10
Natural Gas	12
Fireplace Burner Installation	13
Fire Pit Burner Installation	16
Fireplace Log Set Placement.	18
“Fire on Ice” Glass Placement	19
High Elevation Installation	20
Natural Gas Conversion.	20

**Read this before installing or operating your
new Cal Flame firepit or fireplace.**

Save these instructions!

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Due to continuous improvement programs, all models, operation, and/or specifications are subject to change without prior notice.

LTR50001006, Rev. C
6/21/11

250-407

California Proposition 65 Warning: Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm are found in and/or created by the combustion of natural gas, propane, butane and other fuels. Always operate this unit as described in the owner's manual and in well ventilated areas.

Safety Instructions



Cal Flame fireplaces and firepits are designed for outdoor use only.



Do not store combustible materials, gasoline and any other flammable vapors and liquids.

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



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

What To Do If You Smell Gas

- Shut off gas to the firepit or fireplace.
- Extinguish any open flame.
- Do not try to light the appliance.
- If odor continues, keep away from the appliance and immediately call your gas supplier or your fire department.

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.

Operation

- **Do not use charcoal or other solid fuel in gas burning fireplaces and fire pits.**
- Do not operate the fireplace with the propane tank on, near, or under the hearth! This could result in fire, explosion, or severe injury.
- Do not use your firepit or fireplace for cooking.
- In the event that a burner goes out, turn burner knobs to the full OFF position and let it air out. Do not attempt to use the firepit or fireplace until the gas has had time to dissipate.
- Keep all electrical supply cords away from the heated areas of the fireplace or firepit.
- Never use the fireplace or firepit in windy conditions. If used in a consistently windy area a windbreak will be required. Always adhere to the specified clearances listed in this manual.
- When handling propane gas line and connectors, do not allow them to come in contact with any metal surfaces. Do not drop propane connectors.
- Propane gas sources to the fireplace or firepit must be regulated. Do not operate if regulator has been removed. Fire or explosion can occur.
- Never leave the fireplace or firepit unattended when in use.
- Never allow clothing or other flammable materials come in contact with any hot surface until it has fully cooled. Never wear loose fitting or hanging garments while using your fireplace or firepit. Fabric may ignite and result in personal injury.
- Clothing or other flammable materials should not be hung from the appliance, or placed on or near the appliance.
- When using the firepit or fireplace, do not touch the rock, fire screen, or immediate surroundings, as these areas become extremely hot and could cause burns.
- Do not heat any unopened glass or metal container of food in the fireplace or firepit. Pressure may build up and cause the container to burst, possibly resulting in serious personal injury or damage to the fireplace or firepit.
- Do not reach over your firepit when hot or in use.
- Never line firepit or fireplace with aluminum foil.

Maintenance and Repair

- Spiders and other insects can nest in the burners and block the gas and airflow to the burner ports. This creates a dangerous condition that can result in a fire from behind the valve panel. Inspect and clean the burners periodically and follow the guidelines in the maintenance section of this manual.
- The appliance should be inspected before use and at least annually by a qualified service person.
- More frequent cleaning may be required as necessary. It is imperative the control compartment, burner and circulation air passages of the appliance be kept clean and free.
- Any guard or other protective device removed for servicing the appliance must be replaced prior to operating the appliance.
- If it is evident there is excessive abrasion or wear of any of the components, if the fuel supply hose is cut or cracked, it must be replaced prior to the appliance being put into operation.
- Inspect the fuel supply connection for signs of leakage (including the hose for propane models) before each use of the appliance.
- Unless specifically recommended in this manual, do not repair or replace any part of your firepit or fireplace. Have a qualified technician perform all service. Any repairs made by a non-LMS approved dealer technician will void your warranty.

Storage

- When your fireplace or firepit is not in use, turn off the gas at the source.
- Do not store the propane cylinder in the vicinity of this or any other appliance when it is not being used.
- This appliance can be stored indoors only if it has been disconnected from its fuel supply.
- Store propane cylinders outdoors in a well-ventilated area out of reach of children. Disconnected cylinders must have threaded valve plugs tightly installed and must not be stored in a building, garage, or any other enclosed area.
- To extend the life of your fireplace or firepit, protect and cover it from the elements when not in use. Ensure the appliance has ample time to cool off after use and prior to installing storage cover. Damage caused to storage cover due to heat or burns are not covered by warranty.

Precautions Regarding Children

- Never leave children unattended in the area where the fireplace or fire pit is being used. Close supervision of children is necessary when any appliance is used near children.
- Do not store items of interest to children around or below the fireplace or fire pit.
- Never allow children to sit or stand on any part of the fireplace or fire pit.

Installation

Most cities and counties require permits for exterior construction and electrical circuits. In addition, some communities have codes requiring residential barriers such as fencing and/or self-closing gates on property to prevent unsupervised access to the property by children under the age of 5. Your dealer can provide information on which permits may be required and how to obtain them prior to the delivery of your equipment.

Installation and service must be performed by a qualified installer, service agency or your natural gas or liquid propane gas provider.

Set-Up

- You are responsible for ensuring that a natural gas line (if required) is installed and safe for use. We recommend that a licensed contractor install your fireplace or firepit. Installation must conform to local codes, or in the absence of local codes, with either the *National Fuel Gas Code*, ANSI Z223.1 / NFPA54, *Natural Gas and Propane Installation Code*, CSA B149.1, or *Propane Storage and Handling Code*, B149.2), as applicable.
- Do not use an extension cord to supply power to your fireplace or firepit. Such use may result in fire, electrical shock or other personal injury. Do not install a fuse in the neutral or ground circuit. A fuse in the neutral or ground circuit may result in an electrical shock hazard. Do not ground this appliance to a gas supply pipe or hot water pipe. Keep any electrical supply cords and the fuel supply hose away from any heated surfaces.
- To prevent fire and smoke damage, remove all packaging material before operating the fireplace or firepit.

Installation must conform with local building and/or fire codes, or in the absence of local codes:

- National Fuel Gas Code ANSI Z223.1 / NFPA 54 (for installation in the United States)
- CSA B149.1 Natural Gas and CAN/CGA-BIL/9-2, Propane Installation code (for installation in Canada).

Placement and Location

Cal Flame fireplaces and firepits are designed for outdoor use only.

- Never locate this appliance in a building, garage, or any other enclosed room or under a sealed overhead structure, or in any type of enclosed area such as a garage, shed, or breezeway. Keep clear of trees and shrubs.
- Do not place fireplace or fire pit under or near windows or vents that can be opened into your home.
- Maintain sufficient distance as to not overheat any overhead combustible material such as a patio cover.
- The area surrounding your fireplace or firepit should be kept clean and free from flammable liquids and other combustible materials such as mops, rags or brooms, as well as solvents, cleaning fluids, and gasoline.
- Do not block the vents located near the base of your firepit or fireplace as gas may build up in case of leak and cause serious damage.
- Do not install or operate your fireplace in such a manner that the cross ventilation openings are blocked. Fresh air must be able to pass through installed vents to safeguard against residual gas accumulation. Failure to allow proper ventilation may cause fire or explosion.
- Do not locate appliance where it can get excessively wet. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system and any gas control which has been underwater.
- Place your firepit or fireplace on a flat and stable surface in an outdoor location such as a patio deck.
- Locate your firepit or fireplace adjacent to the gas supply line (liquid propane or NG), preferably with the shortest gas line run possible.
- Maintain the following clearances to combustible materials on all Cal Flame fireplaces and fire pits.

Sides and back 48 inches (122 cm) (measured from side)

Top 120 inches (305 cm) (measured from hearth)

Leak Testing Procedure

Perform a leak test at least once a year whether the gas supply cylinder has been disconnected or not. In addition, whenever the gas cylinder is connected to the regulator or whenever any part of the gas system is disconnected or replaced, perform a leak test.

As a safety precaution, remember to always leak test your fireplace or firepit outdoors in a well-ventilated area. Never smoke or permit sources of ignition in the area while doing a leak test. Do not use a flame, such as a lighted match to test for leaks. Use a solution of soapy water.

1. Prepare a leak testing solution of soapy water by mixing in a spray bottle one part liquid soap to one part water.
2. Make sure all the control knobs are in the OFF position.
3. Turn on the gas.

On **natural gas systems**, turn the main feed valve to the burner.

On **propane systems**, turn the cylinder valve knob counter clockwise one turn to open.

4. Apply the leak-testing solution by spraying it on joints of the gas delivery system. Blowing bubbles in the soap solution indicates that a leak is present.
5. Stop a leak by tightening the loose joint or by replacing the faulty part with a replacement part recommended by the manufacturer. Do not attempt to repair the cylinder valve if it is damaged. The cylinder must be replaced.
6. Turn the control knob back to the full OFF position.

If you are unable to stop a leak:

1. Turn the control knob back to the full OFF position.
2. Shut off the gas supply to the fireplace or firepit and release pressure in the hose and manifold by turning the control valve one quarter turn counter-clockwise.
3. On propane systems, remove the cylinder from the fireplace or firepit.
4. Call an authorized gas appliance service technician or an liquid propane gas dealer.

Do not use the appliance until the leak is corrected.

Liquid Propane

Your Cal Flame fireplace or fire pit is not provided with a propane cylinder. If you choose to operate your fireplace with propane, you must supply your own cylinder.

Requirements

The 20 lb propane gas supply cylinder used with propane models must be constructed and marked in accordance with the specifications for propane gas cylinders as required by the U.S. Department of Transportation (DOT) or the CAN/CSA B339, Cylinders, Spheres and Tubes for the Transportation of Dangerous Goods.



Manifold Pressure: For plumbed-in liquid propane installation, use a regulator.

Supply Pressure: Maximum line pressure for plumbed-in propane is 14" W.C psi (3.5 kPa). Minimum line pressure for propane is 11" W.C.

Pressure Regulator: The unit must be used with the supplied gas pressure regulator and hose assembly. The regulator will control and maintain a uniform gas pressure in the manifold. The burner orifice has been sized for the gas pressure delivered by the regulator. Replacement pressure regulator and hose assemblies must be those specified in this manual.

Cylinder Specification: Any propane gas supply cylinder used with this fireplace or fire pit must be approximately 12 inches in diameter and 18 inches high. The maximum fuel capacity is 20 lbs. of propane, or 5 gallons. Full cylinder weight should be approximately 38 lbs. (43.7 lbs. nominal water capacity.) Always use the cylinder dust cap on the cylinder valve outlet during transport and when the cylinder is not connected to the fireplace or fire pit. The 20 lb propane gas cylinder used must include a collar to protect the cylinder valve.

Filler Valve: If you do not have an updated filler valve on your existing propane tank, you will need to purchase one at your local hardware store, as you will not be allowed to refill the tank at any filling station.

Transporting Gas Cylinder: Only one cylinder should be transported at a time. Transport cylinder in an upright and secure manner with control valve turned off and the dust cap in place.

Connection

Check the rating plate to make sure the gas supply you are hooking up to is the gas type the firepit or fireplace is manufactured for.

Inspect the hose shipped with the unit for damage. Never attempt to use damaged or plugged equipment. See your local liquid propane gas dealer for repairs. After inspecting the propane hose shipped with the unit, connect the end with the female fitting on the hose to the male fitting on the on/off gas valve at the end of the hose. Tighten fittings using two wrenches.

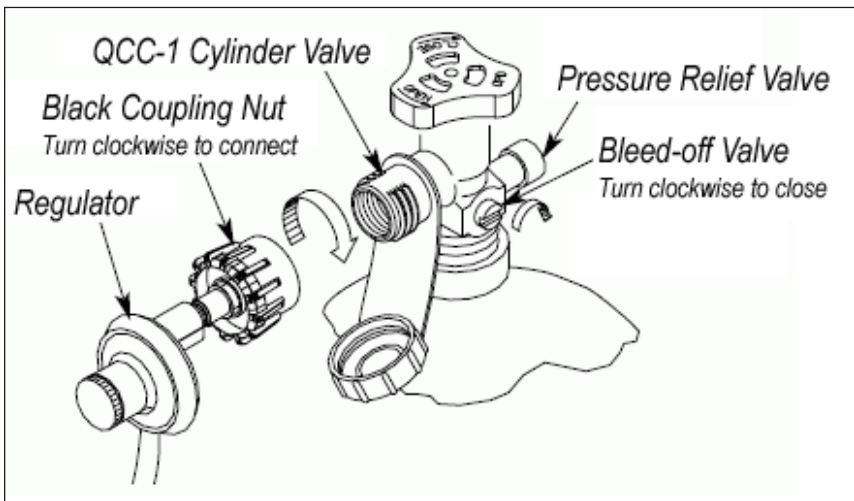
When connecting the regulator assembly to the tank valve, hand tighten the black QCC-1 nut clockwise. DO NOT use a wrench to tighten. See the figure below.

Purge the gas supply line of any trapped air prior to the first firing of the unit.

During the initial purging and subsequent lightings, NEVER allow gas to remain in the "Open" position without first placing and igniting the fire starter.

Be certain to mount or set the 20 lb propane gas cylinder on a flat surface and restrain it to prevent it from tipping.

Locate the hose out of the pathways where people may trip over it or in areas where the hose may be subjected to accidental damage.



Propane Cylinder Enclosure

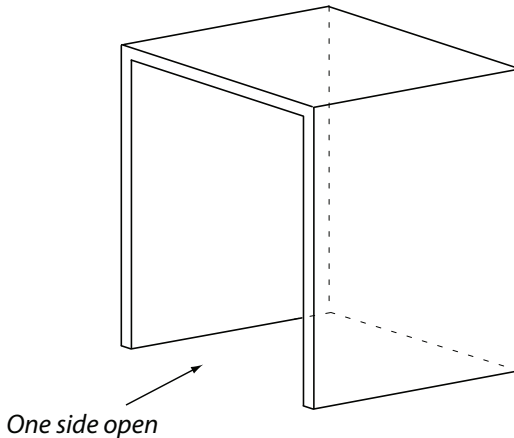
Cal Flame fireplaces and some fire pit models do not have an enclosure for the propane cylinder. If you build an enclosure for a propane gas cylinder, follow these recommended specifications and follow local codes.

Ensure cylinder valves are always readily accessible. A door on the enclosure to gain access to the cylinder valve is acceptable, provided it is non-locking and can be opened without the use of tools.

Enclosures for propane gas supply cylinders need to be ventilated by openings at the level of the cylinder valve and at floor level. This is accomplished by one of the following ways:

- 1) One side of the enclosure is completely open.

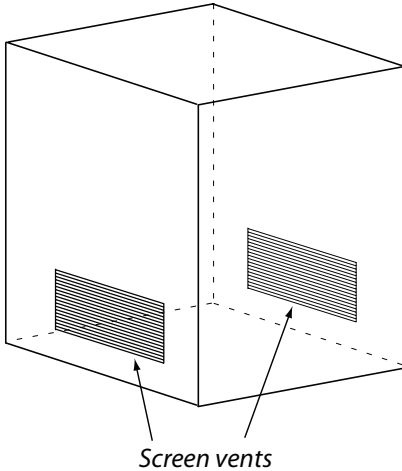
This method has no special ventilation requirements.



One side open

2) All sides are completely enclosed.

This method requires at least two ventilation openings at cylinder valve level in the side wall, equally sized, spaced at 180 degrees (3.14 rad), and unobstructed.



Make sure each opening has a total free area of not less than $\frac{1}{2}$ square inch per pound (3.2 sq. cm/kg) of stored fuel capacity and not less than a total free area of 10 square inches (64.5 sq. cm).

Ventilation openings need to be provided at floor level with a total free area of $\frac{1}{2}$ inch per pound (3.2 sq. cm/k) of stored fuel capacity and not less than a total free area of 10 square inches if the ventilation openings at floor level are in a side wall, make sure there are at least two openings. The bottom

of the openings shall be at floor level and the upper edge no more than 5 inches (127 mm) above the floor. The openings need to be equally sized, spaced at 180 degrees (3014 rad) and unobstructed.

Make sure every opening has minimum dimensions to permit the entrance of a $\frac{1}{8}$ inch (3.2mm) diameter rod.

There shall be a minimum clearance of 2 inches (40.8mm) between the lower surface of the floor and the propane gas supply cylinder enclosure and the ground.

Natural Gas

Ensure that the service supplying the fireplace or fire pit is fitted with a conveniently positioned shut off valve with easy access. The shut off valve **MUST NOT** be inside the appliance!

Requirements

Always check the rating plate to make sure the gas supply you are hooking up to is the gas type the firepit or fireplace is manufactured for.

The installation of this appliance must conform with local codes or, in the absence of local codes, to the national fuel gas code, ANSI Z223.1a-1998. Installation in Canada must be in accordance with the standard CAN/CGA-B149.2, Propane Installation Code. Natural gas connection must be performed by a licensed contractor or local gas company representative.

Ensure that the service supplying the firepit or fireplace is fitted with a conveniently positioned shut off valve with easy access.

Installation

Connect the incoming gas supply line to the on/off gas valve of the appliance. Make certain ALL gas connections are tight, turn the on/off valve at the unit to the 'on' position and use soap and water to test for leaks. Gas will be released at the burner for this duration. **DO NOT USE AN OPEN FLAME AND REMOVE BATTERY FROM IGNITER BEFORE PERFORMING THIS TEST. *An authorized gas appliance installer must provide this installation service.*** Note that the correct natural gas orifice must also be installed prior to fuel line hook up to maintain proper flame height and clean burn of fuel.

Fireplace Burner Installation

This procedure describes how to access the gas lines for installation. **Gas installation should be performed by a qualified contractor.**

1. Remove the hearth base by sliding it out of the fireplace.



2. Push the black gas line (for propane units) or flex line (for NG units) under the fireplace.



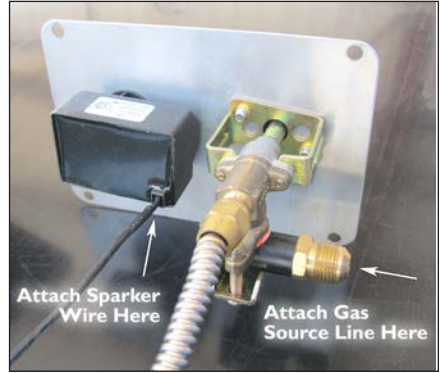
Caution: Make sure the burner has been converted for use with NG before connecting to a NG source!

3. Push the black sparker wire from the burner through the slot in the hearth base.



4. Attach the black gas line to the valve behind the gas igniter installed on the side of the fireplace.
5. Connect the sparker wire to the igniter.

Note: The igniter and valve in the picture has been removed from the fireplace for clarity.



Do not use Teflon tape or plumber's dope with a flared fitting.

6. Pull the gas flex line through the slot in the hearth base and connect it to the burner.



7. Slide the burner into the slot in the hearth base.



- Slide the hearth base back into the fireplace.



- Connect to the gas source and perform a leak test.



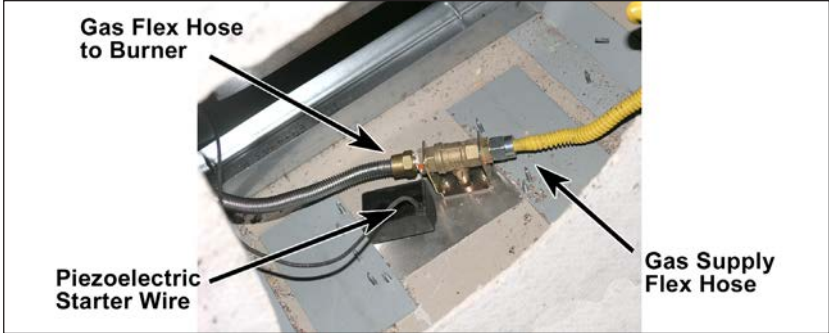
Caution! Never place or store the propane tank under the hearth base!



Fire Pit Burner Installation

The log set and crushed lava rock are shipped together on applicable models. Remove the log set and un-pack all components. The logs are fragile -- use care when handling.

Turn the fire pit on its side. Connect the piezoelectric starter and attach the flex hose for the gas supply.

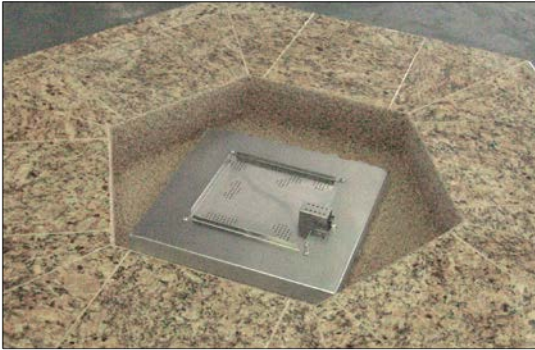


Place the fire pit back down on its pedestal. Attach the gas flex hose to the burner.



Note: If you want to convert the orifice from propane to NG, this is location of the orifice. See next page for gas conversion instructions.

Set the burner in the center of the pit.



Place the rocks on top of and around the burner.



Arrange the log set on top.



Fireplace Log Set Placement

The log set, log grate and crushed lava rock are shipped together on applicable models. Remove the log set and un-pack all components. The logs are fragile -- use care when handling.

Once the fireplace is in position, level and safely hooked up to the proper fuel supply, install the log grate over the plate burner.

Place the lava rock around the flat burner plate. **DO NOT** place the lava rock on the burner plate as it will affect the flow of the flame.

Place the ceramic fire logs on the grate. Start by laying one log in the center of the grate length wise.

Lay the other logs (quantity may vary by unit type) over the first log as shown below.

NOTE: Be sure unit is cool before touching any of the components.

Place two logs lengthwise in the grate and position remaining logs over them in an angled position as shown. Ensure the logs are placed securely to avoid any movement.



18" Log Set



24" Log Set

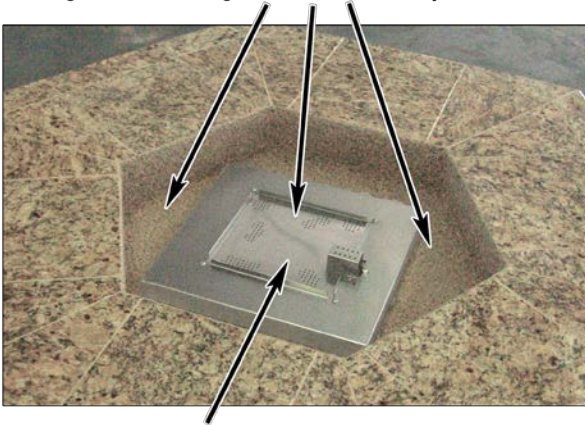
“Fire on Ice” Glass Placement

Some fire pit owners have the “Fire on Ice” option which uses decorative glass chips instead of lava rocks and a log set. (This option is available to all fire pit owners and may be ordered directly from Cal Flame. See page 28 for order information.)

You will receive two bags of different colored glass. Open the bag of lighter colored glass and pour it into the shallow pit on top of and around the burner. Distribute the glass in an even layer.

Then open the bag of darker colored glass and pour it into the center of the fire pit as shown in the figures below. This will create an attractive two-tone effect.

Place lighter colored glass in an even layer



Place darker colored glass in center



High Elevation Installation

Your fireplace or fire pit is approved for elevations up to 4500 feet in the US and Canada.

When installing this appliance at an elevation above 4500 feet in the US, it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Reduce the input by 4% for each 1,000 feet above sea level, unless the heating value of the gas has been reduced, in which case this general rule will not apply. To identify the proper orifice size, check with your local gas utility.

When installing this unit at an elevation above 4,500 feet in Canada check with your local authorities. Consult the local gas utility for assistance in determining the proper orifice for your location.

Natural Gas Conversion

For Both Fireplaces or Fire Pits

CAUTION: This service is to be completed only by an authorized gas appliance installer. Do not attempt this conversion on your own as there is risk of serious injury or death.

To The Authorized Gas Appliance Installer:

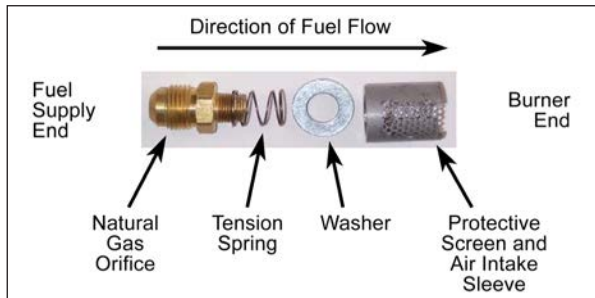
All Cal Flame fireplaces and firepits are shipped from the factory equipped to burn on liquid propane fuel. Enclosed with this kit is a natural gas conversion kit for converting this unit to natural gas. To perform this conversion, follow the directions below and to the local regulation standards in your area.

1. Make sure unit is not in operation and is cool enough to perform this service. Shut off and disconnect propane fuel source at the regulator end.
2. Carefully remove the storage cover, lava rocks and fire logs. Turn unit over to access hose connections underneath.
3. While holding the propane orifice in place with a wrench, unscrew brass fitting on fuel inlet hose. Unscrew propane orifice and remove.
4. Using the new brass natural gas orifice re-install the parts in the same sequence. Turn the protective screen / air intake sleeve to al-

low a controlled amount of air flow through the screen and into the fuel supply tube. Flame should have good retention. For a proper burn and as a general rule, the air shutter for propane installation should be completely open, and the air shutter for NG installation should be mostly closed. This can be adjusted later to create a clean and desired flame.

- Refer to photo below for proper placement of parts. The washer should insert next to the protective screen cover, then the spring is to be aligned with the hole and finally the natural gas orifice is to be threaded into the end of the fuel inlet leading into the burner. Once tight the other brass fitting connection can be made from the fuel line fitted between the valve and the orifice.
- Connect natural gas supply hose (not included with kit) from supply source. Test for leaks.
- Once the conversion is completed and leak tested, reload the fireplace or firepit with the lava rocks and fire logs. Test the unit while in place and verify it works properly. If flame from burner is not properly adjusted you can adjust air intake by turning the protective screen cover and air intake sleeve on the fuel supply tube.

Orifice assembly for fire pit burners



Orifice assembly for fireplace burners

