All Weather Electronic Ignition System
Installation and Operating Instructions

**WARNING:** For Outdoor Use Only

**INSTALLATION PRECAUTION:**
This system requires a minimum 18-square inches (per side) of cross ventilation. Failure to provide proper ventilation will void the warranty.

<table>
<thead>
<tr>
<th>AWS Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPB-25SFBSAWS-N</td>
<td>25” Natural Gas, Round Pan with 22” Spur Burner</td>
</tr>
<tr>
<td>FPB-26DBSAWS-N</td>
<td>26” Natural Gas, Round Flat Disc with 16” Spur Burner</td>
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<td>29” Natural Gas, Round Disc with 22” Spur Burner</td>
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<td>FPB-44DBSAWS-N</td>
<td>44” Natural Gas, Round Flat Disc with 36” Spur Burner</td>
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DANGER

CARBON MONOXIDE HAZARD

This appliance can produce carbon monoxide which has no odor.

Using it in an enclosed area can kill you.

Never use this appliance in an enclosed space such as a camper, tent, car or home.

DANGER

FIRE OR EXPLOSION HAZARD

If you smell gas:

1. Shut off gas to the appliance
2. Extinguish any open flame.
3. If odor continues, leave the area immediately.
4. After leaving the area, 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 other appliance.

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

WARNING

Do not leave unattended during use. Do not use for cooking. Follow all gas leak procedures in this manual prior to operation.

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.

FOR YOUR SAFETY

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

CALIFORNIA PROPOSITION 65

WARNING

This product is designed to operate with one of the following fuel sources: Liquid Propane or Natural Gas. The fuel used to operate this product, and the products of combustion of such fuel, can expose you to chemicals including Benzene which is known to the State of California to cause cancer, birth defects and other reproductive harm and Carbon Monoxide which is known to the State of California to cause birth defects or other reproductive harm.

(For more information go to: www.p65Warnings.ca.gov.)
All media (i.e. lava rock, lava stones, lava boulders and fire glass) has the potential of thermal spalling. This is a process that may occur when media is wet and moisture gets trapped inside of the material due to rapid temperature differences. When this happens the media has the potential to crack or “pop” outside the fire feature.

WE HIGHLY RECOMMEND COVERING ALL FIRE FEATURES WHEN NOT IN USE

The use of a cover can lessen the impact of thermal spalling; however, heavy rains, high humidity and the presence of moisture may still cause the media to pop.

ALWAYS USE CAUTION WHEN USING THE FIRE FEATURE

Extra caution should be taken when lighting a fire feature when heavy rains, high humidity and moisture are present. Light the fire feature; leave the area allowing any moisture in the media to dissipate. We strongly recommend that during this drying out time that you monitor the fire feature from a distance. This drying out period should be no less than 30 minutes. Continue monitoring the flame from distance to ensure that all popping has ceased before fully enjoying the fire.
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model: Natural Gas (NG)</th>
<th>A Depth</th>
<th>B Pan/Disc Diameter</th>
<th>C Burner Size</th>
<th>D Ground Level</th>
<th>E Side Wall</th>
<th>F Combustible Ceiling</th>
<th>G Combustible Floor</th>
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<tr>
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<td>RD. 25&quot; OD</td>
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<td>36&quot;</td>
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<td>96&quot;</td>
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<td>120&quot;</td>
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Table 1 Installation specifications ** Used with Sanctuary 2 models only.

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**Fig. 1** Shows pan on top view and disc on bottom view.

**Fig. 2** Clearance to Combustibles (Not to be used in an enclosed space)

**Table 2** Btu Specifications for Burner Spur by Firegear Outdoors

<table>
<thead>
<tr>
<th>Orifice #</th>
<th># Drill Size NG</th>
<th>BTU's NG</th>
<th># Drill Size LP</th>
<th>Btu's LP</th>
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<td>117,500 (34.43kW)</td>
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<td>185,500 (54.36kW)</td>
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**Table 3** Gas Pressures

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<th>NG</th>
<th>LP</th>
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<td>Min. Inlet</td>
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<td>Max. Inlet</td>
<td>14.0&quot; WC (½ PSI) (3.48kPa)</td>
<td>14.0&quot; WC (½ PSI) (3.48kPa)</td>
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<tr>
<td>Normal Inlet</td>
<td>7.0&quot; WC (¼ PSI) (1.74 kPa)</td>
<td>11.0&quot; WC (¼ PSI) (2.73 kPa)</td>
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</tbody>
</table>

**Disclaimer:** Btu listings are based on 7.0"WC for Natural Gas and 11.0"WC for Liquid Propane (LP) at the burner orifice when using Firegear Outdoors Burning Spurs. If you use a burner other than a Burning Spur, Btu’s will vary.

**Note:** Flex line size and proper gas pipe sizing will also affect Btu’s. As a result your Btu’s may vary slightly from Table 2 specifications.
Shown below are three Match Throw (MT) style fire pits that come with the All Weather Ignition System (AWS); depending on which model is ordered. Each individual “FPB” model fire pit comes with: Burner Pan & Spur Burner, Key Valve, 12-inch Key, Orifice and Flex Line. All shown in the outlined box below.

The All Weather Ignition System (AWS) comes in a separate box (from the fire pit) labeled # FG-AWS30VDC-RCK and includes all parts shown in the outlined box below.

**CONTENTS**

**ON/OFF Control Options**

Model: FG-TIMER
Model: FG-WS-OD (wall switch)

**Additional Safety Precaution Options**

Model: FG-EMER (emergency stop)
PREPARING A NON-COMBUSTIBLE STRUCTURE

DESCRIPTION
This is a field serviceable (30VDC) commercial grade outdoor electronic system with a maximum gas capacity of 290,000 Btu's and it is shipped as a Natural Gas (NG) model. It must be installed with a burner pan, burner, orifice and installed into a non-combustible enclosure. The “All Weather System” (AWS) requires a 120VAC Ground Fault Interrupter (GFI) to be installed in a weatherproof box. The power supply Model #GOE-30VDC is used for a single installation greater than 10-feet or more from pools or spas.

In the absence of local codes use the latest edition of the National Fuel Gas Code NFPA54 and National Electrical Code (NEC), or NFPA 70. The weatherproof box (supplied) should be mounted securely within 6-feet of the GFI box. The GFI box can power the adapter and optional remote control receiver, if applicable. Note: Gas line must be bonded at EACH FIRE FEATURE. See NEC-680.26B

IMPORTANT
Installation of Natural or LP gas should be done by a qualified installer, service agency or gas supplier. This appliance must be isolated from the gas supply piping system by closing its manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½" psi (3.5kPa).

READ THIS MANUAL COMPLETELY BEFORE BEGINNING INSTALLATION. UNDERSTAND HOW THEY OPERATE AND INSTALL.

VENTILATION FOR NON-COMBUSTIBLE ENCLOSURE
Fire features are subjected to many outdoor elements such as rain, snow, wind, heat or cold. A minimum of 18 square inches (opposite sides) of cross ventilation is required to keep the components in good working order. Use Fig. 3 on as guide to assist to incorporate proper ventilation.

Fig. 3 Shows cross ventilation for a linear enclosure.

LEVEL FLAT SURFACE
Install fire feature on any level, outdoor non-combustible, flat stable surface or a combustible floor according to the clearances specified in this manual for a Firegear burner. Note: Depending on venting locations, do not place fire pit directly on grass, dirt, or rocks that could prevent proper ventilation. Ensure proper water drainage is also incorporated into the fire feature enclosure.

HIGH ELEVATION INSTALLATION
This appliance is listed for elevations from 0-4500 feet in Canada and the U.S. If elevation exceeds 4500 feet it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Input should be reduced 4% for each 1000 feet beyond the 4500 feet above sea level. Check with your local gas utility for assistance in determining the proper orifice in your location. In some cases the heating value may already be reduced and downsizing the orifice may not be necessary.

HARD PIPING TO FIRE FEATURE WITHOUT GAS PROXIMITY
NOTE: Refer to the NFPA54 (National Fuel Gas Code) for proper pipe sizing. See gas line sizing chart on page 7 as a reference.

1. Turn OFF gas supply system. Note: All gas connections (except for brass to brass) require the following. Clean pipe threads using either a wire brush or steel wool. Apply pipe sealant to the fittings before making any connection.

2. Ensure all gas connections are snug, but do not over tighten! BE CAREFUL!

3. Install necessary pipe for the distance required and a manual shut-off valve at the exterior house wall. Check with local codes for proper procedures. If pipe is to pass through a foundation or house wall, make sure to seal the area around the pipe with weather sealant. Consult a plumber for proper installation to ensure you are providing adequate gas supply for your application.

4. The primary gas shut-off (not supplied) will require a ½” male flared fitting to enable connection of the stainless steel flex gas line (not supplied) with the fire feature (see Fig. 5 page 9).

5. Do not place an LP tank inside any fire pit enclosure. Locate all Liquid Propane (LP) tanks outside the enclosure.

6. To prevent performance problems with LP gas fire pits, do not use a LP tank less than 100lbs. capacity.

IMPORTANT
Installation of Natural or LP gas should be done by a qualified installer, service agency or gas supplier. This appliance must be isolated from the gas supply piping system by closing its manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½” psi (3.5kPa).
### Natural Gas: Pipe Sizing Chart

<table>
<thead>
<tr>
<th>Length of Pipe in Feet</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1 - 1/4&quot;</th>
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- Natural Gas (NG) flow is given in thousands of BTU/hr. = 1 cubic foot of NG gas - 1000 BTU
- Nominal pressure at the burner for Natural Gas is 3.5” of water column. (Typical machine supply 5”-7”)
- Pipe length must include additional length for all fittings. Add approximately 5 feet of pipe per fitting.
- Natural Gas Example: A machine with a burner that requires 440,000 BTU would need a 1 -1/4" pipe for a 20’ long run.

### Liquid Propane: Pipe Sizing Chart

<table>
<thead>
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<th>Length of Pipe in Feet</th>
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- Liquid Propane (LP) Gas flow is given in thousands of BTU/hr. = 1 cubic foot of LP gas - 2500 BTU.
- This chart refers to low pressure LP, after regulation, Standard nominal pressure at the burner for Liquid Propane Gas is 11” of water column.
- Pipe length must include additional length for all fittings. Add approximately 5 feet of pipe per fitting.
- LP Example: A machine with a burner that requires 440,000 BTU would need a 1” pipe for a 20’ long run.

**Note:** The sizing charts above list the specific pipe sizes required for the amount of BTU’s for a new gas line installations. If you are using an existing gas line you must take into consideration the existing gas line capacities to ensure you will have proper pressure. This chart is for reference only, we recommend you consult with a Licensed Plumber/Gas Fitter or NFPA64 (National Fuel Gas Code - current edition) for more details.

**Table 4 Gas Pipe Sizing Chart**
PRE-INSTALLATION CHECK LIST FOR SINGLE INSTALL

GAS INFORMATION

Gas Volume - Ensure the correct size pipe is used for the total gas load. If installing more than one fire feature, ensure the correct size pipe is based upon the distance of the furthest fire feature away and the total gas load is for all gas appliances on that gas line (i.e. fire feature, BBQ, torches, etc.).

Gas Pressure & Type of Gas - What is the gas pressure being supplied to the fire features? Is the fire feature(s) configured for the proper gas type? The AWS gas valve is shipped for Natural gas. To convert to Propane (LP) gas, the secondary pilot orifice must be changed.

Manual Shut-off/Key Valve - Is there a manual shut-off or key valve installed within 6-feet of the fire feature? Did you verify proper distance with local and national codes?

Purging a New Gas Line - Has the gas line been purged of both air and possible debris? Any gas lines buried underground must be pressure tested up to 60PSI to ensure no leaks. After inspection is complete, most plumbers will release pressure in the line at one location by opening the manual ball/key valve. It is recommended to release pressure by opening a ball/key valves associated with all the fire features. Example: There are four fire features on a job, open the first key valve for a few seconds, then close it. Then move on to the next key valve and do the same thing until you have purged the debris out of all four gas lines.

Main Burner Orifice - All fire features MUST have a main burner orifice installed on the inlet side of the burner. An orifice limits the amount of gas flow to the burner to ensure the flame is a safe and reasonable height to not pose a risk to people or property. The drawings below show the difference between a Natural gas and Propane (LP) orifice. Because LP gas does not burn as clean as Natural and requires ventilation holes at the base of the orifice to provide a cleaner flame. See Fig. 4.

Fig. 4 Natural (NG) orifice on left; LP (vent holes) on right.

ELECTRICAL INFORMATION

Wire Gauge - Is the wire gauge correct? Wiring must be 12AWG or greater (solid or stranded) for all installations. Note: It is recommended to fill the wire nuts with either dielectric grease or silicone prior to installing the wire nut. This will ensure a waterproof connection.

Why GFI circuit? A GFI is a type of circuit breaker which shuts off electric power when it senses an imbalance between the outgoing and incoming current. It protects the house wires and receptacles from overheating and possible fire.

Power Supply - Firegear Outdoors offers two power supplies for use with the fire features. Each power supply requires 120VAC power to operate and converts it to 30VDC to operate the gas valve. DO NOT CONNECT 120VAC DIRECTLY TO THE GAS VALVE WIRES - DAMAGE WILL OCCUR. The #GOE-30VDC is used for one fire feature only - installed 10-feet or greater from a pool or spa. This power supply has a 3-foot power cord to plug into 120VAC outlet and a 3-foot leads to connect to the gas valve on the 30VDC side.

The FG-PS30V320 model has an 8-foot power cord and can be used for one or a maximum of four fire features. The maximum distance the furthest fire feature can be from the power supply is 500-feet. In addition, the FG-PS30V320 model enables a fire feature to be installed within 5-feet of a pool or spa.

Bonding - Gas lines must be bonded AT EACH fire feature. (Refer to National Electric Code 2017 Section: 680.26(B).

MEDIA INFORMATION

Acceptable media placed over top of the burner:

Lava Rock 1” - 2” size
FG-LAV-10 (10 LB) FG-LAV-50 (50 LB)

GL Glass ½” - ¾” size
Various colors are available
See Product catalog for details
Sold in 5 LB bags or 8 bags to a case

GRL Reflective Glass ½” - ¾” size
Various colors are available
See Product catalog for details
Sold in 5 LB bags or 8 bags to a case

DRAINAGE INFORMATION

For any fire feature ABOVE ground level requires a drain line or a way for water to exit the fire feature.

Note: This AWS system is not approved to be installed BELOW ground level.
POWER SUPPLY LOCATION
The GOE-30VDC power supply is to be installed inside the enclosure due to the wire length limitations. The power cord is 3-feet long the 30VDC leads to the valve are 3-feet long. See Fig. 5.

Non-Pool Certified Applications
(Must be 10-feet or more away from pool or spa)

Fig. 5 Example of a single fire feature install. Note: Must be 10-feet or more from a pool/spa.
ALL PANS OR DISCS MUST BE REMOVABLE FOR SERVICE

Pans or discs CAN NOT be installed in a manner to prevent them from being removed for service.

Top coping material or top cap of fire feature MUST NOT overlap onto the pan or disc surface. Pan lip or disc outer edge must be unobstructed so it can be lifted out of the fire pit or fire feature for servicing.

Preparing the AWS-PLATE
In the parts box is an #AWS-PLATE. The plate has two tabs and a large square hole. Orient the plate as shown in Fig. 6. Uses a pair of needle nose pliers and bend the tab closest to the square hole up 90°. See Fig. 7. Leave the other tab as is, in the flat position.

Removing the four screws from the existing cover plate from the fire pit pan. Note: Retain the four screws to install the new AWS ignition assembly later in this process.

Fig. 6 Shows AWS-PLATE in flat position.

Fig. 7 Show one tab bent upward 90°.

Fig. 8 Removing cover plate.
INSTALLING PILOT ASSEMBLY INTO AWS PLATE

Gather the pilot assembly ends and install them into the square hole of the AWS plate as shown in Fig 9.

Fig. 9 Installing Pilot assembly into mounting plate

Align the pilot assembly plate to the mating holes of the AWS-PLATE and secure pilot assembly to the plate with two #8-18 x 1/2" hex screws (provided). See Fig. 10.

Fig. 10 Securing pilot assembly with two screws

After mounting the pilot assembly to the plate install it into the bottom of the fire pit pan as shown in Fig. 11.

Use the four hex head self tapping screws with the kit and install the mounting plate with the new pilot assembly from the bottom of the burner pan. See Fig. 11.

Fig. 11 Installing the mounting plate and pilot assembly to bottom of burner pan.

INSTALLING BURNER INTO BURNER PAN

Reinstall the burner into the pan or disc per Fig. 12. Ensure the burner leg is against the tab of the AWS-PLATE as previously prepared. Secure the burner against the pan with a nut and washer then install the orifice and shown in Fig. 12. Firegear Spur burner and orifice shown.

Note: The AWS valve is set up for ½" fittings. If your burner is ¾" you will need to provide a reducer to adapt to the gas valve.

CAUTION: Gas rated Teflon tape or pipe compound must be used on a NPT connections.

Propane (LP) installations require a 3" nipple installed into the burner before the LP orifice is installed. The helps prevent any back pressure of flames trying to exit through the vent holes.
INSTALLING GAS VALVE TO BURNER

Invert the burner pan upside down and install the heat shield (Fig. 13). The heat shield will rest on the orifice. Place the cutout or notched section of the heat shield toward the pilot area in the burner pan. This allows for pilot tubing clearance on smaller pans. Install the brass nut (supplied with kit) on the OAS to secure the heat shield into place. Secure nut with an adjustable wrench.

![Fig. 13 Installing heat shield](image)

Remove the plastic plug from the outlet side of the gas valve box and thread the female outlet to the male nipple of the OAS previously installed on the burner pan as shown in Fig. 14. Ensure the brass nipples and 4-PIN connector on the gas valve box are located toward the pilot area when securing gas valve into place.

![Fig. 14 Removing the plug from the Outlet end of the valve](image)

Thread the Outlet side of the gas valve to the orifice and secure it into position. Ensure the brass pilot fittings are facing the pilot area for a convenient connection.

![Fig. 15 Installing gas valve to orifice.](image)

Install a 1/2" flare x 1/2" MIP fitting (U1-8D-S included) onto the inlet side of the gas valve box. Wrap the male NPT threads with gas rated Teflon tape or pipe compound before securing into position. See Fig. 16. This will enable a non-whistling flex line to be connected directly to the gas valve.

![Fig. 16 Installing fitting into the inlet side of gas valve](image)
The pilot assembly has two pilots inside the perforated hood. One uses a flared fitting to connect to the valve box and the other pilot uses a compression fitting. Secure both fittings to the valve box using a $9/16$" open-end wrench for the flared fitting and a $\frac{1}{2}$" open end for the compression fittings. See Fig. 17.

![Fig. 17 Connecting pilot assembly to valve box.](image1)

Install the 2-PIN connectors (items #1 & #2 in Fig. 18) from the pilot assembly into the valve box, located next to the pilot assembly fittings. Ensure the connector locks into position. See Fig. 17. **Note:** Connectors are two different types to prevent incorrect connection.

Plug the red and black power supply wire, item #3, in Fig. 18 into the 2-PIN connector on the side of the valve box. Note the red sleeve on the positive wire when attaching the power supply. See Fig. 18.

![Fig. 18 Shows three 2-PIN connectors installed into valve box and the power supply wires attached to valve box.](image2)

**INSTALLING MANUAL KEY VALVE**

The key valve contents: (1) key valve, (1) 12-inch key and (1) flange. See Fig. 19. The valve requires a 1¼" round clearance hole in the non-combustible enclosure wall. See the instructions supplied with the key valve for more specific details. **Note:** Be sure to leak test all fittings before operating.

![Fig. 19 Key valve components](image3)

Depending on the enclosure being used, the key valve can be installed in various methods. The flange threads onto the valve as shown and comes with one fitting to attach the flex gas line that is supplied with the fire pit. The primary gas line fitting (not supplied) is left up to the plumber to supply depending on the connection needed for the installation. See Fig. 20.

![Fig. 20 Key valve components](image4)
**Note:** A 1¼” x 2” black iron or galvanized coupler/ nipple (not supplied) can be used as a spacer between the manual valve and the valve flange to add additional support to hold the manual key valve in place, if needed. See Fig. 21.

**Fig. 21** Key valve using nipple as additional support

Before the fire pit is set inside the enclosure, install the 46” flex connector to the gas valve box and to the manual key valve.

This system is provided with a hand held remote control (Model 1420-A). Wire it as shown in Figs. 23 and 24. The remote control receiver will fit inside the weatherproof box (provided). Use the instructions provided with the remote control to “learn” (program) the transmitter to the receiver.

Use dielectric grease on all wire nut connections and ¼” connectors to prevent moisture issues from the outdoor environment.

The AWS system is polarity sensitive. There is a red sleeve attached to the positive (+) side of the adapter. When wiring the remote control receiver, one red wire from the receiver connects to the adapter with the red sleeve. The other red wire of the receiver connects directly to the red wire from the gas valve control box. See Figs. 23 and 24 on page 15. **Note:** There is an extra red jumper wire provided to extend either red wire of the 1420-A remote control receiver. It is not required to use this wire. It depends on each application.

**INSTALLATION OF MEDIA INTO BURNER PAN**
Install lava rock into the burner pan. Ensure the lava rock is a minimum of 1-inch diameter for proper operation. **Note:** Do not pour Lava Rock directly from bag. It should be placed naturally and NOT packed in tight. Loose fitting is important to ensure robust flames. Placing the lava rock in the pan by hand, ensures no excessive dust from bag lays in the bottom of pan and potentially plugs the burner port holes or the pan weep holes.

**IMPORTANT: DO NOT PLACE ROCK OVER TOP OR UNDER THE PILOT SCREEN COVER.** The screen must be free of any debris to ensure proper lighting of burner and good flame sense (See Fig. 22).

Cover the burner completely with media but do not make the depth greater than 1-inch over-top of the burner port holes.

Do NOT cover the top of mesh pilot hood with any rock or glass. It must be free an any debris to operate properly.

**Fig. 22** Media placement around pilot hood.
**WIRING DIAGRAMS FOR SINGLE INSTALL**

**Fig. 23** Wire diagram of AWS system with 1420-A remote control receiver

**Non-Combustible Enclosure**

- Spur Burner
- Flat Disc
- Flex Frame
- 120VAC Power GFI Outlet
- 1420-A Receiver
- Key Valve
- Gas Supply
- Heat Shield

**Fig. 24** Shows typical installation of fire pit using AWS system
CAUTION: Children and adults should be alerted to the hazards on high surface temperatures 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.

WARNING: Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of control system and any gas control, which has been under water.

SAFETY WARNINGS

1. Never leave the fire pit unattended during operation.
2. Clothing or other flammable materials should not be placed on or near the appliance.
3. Any guard or other protective device removed for servicing the appliance must be replaced prior to operating the appliance.
4. Installation and repair should be done by a qualified service person. 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, burners and circulating air passageways of the appliance be kept clean.
5. Inspect the fuel supply connection before each use of the appliance.
6. Temporary storage of this appliance indoors is permissible only if it has been disconnected from its fuel supply (Natural or LP gas line).

WARNING

1. This appliance is hot when operated and can cause severe burns if contacted.
2. Do not burn any solid fuels in this appliance.

READ ALL LIGHTING INSTRUCTIONS BEFORE ATTEMPTING TO LIGHT FIRE PIT

CAUTION: ENSURE YOU HAVE LEAK TESTED THE FIRE PIT BEFORE OPERATING.

WARNING: Do not stand over fire pit during ignition or operation due to high surface temperatures.

LIGHTING INSTRUCTIONS

TURNING ON FIRE PIT/FEATURE

Prior to turning the fire pit ON, visually inspect the fire pit to ensure debris such as leaves or other combustible materials have not collected on top of the fire pit, which could burn and emit embers once the fire pit is turned ON. At the same time, ensure anyone standing close to the fire pit is aware you are turning it ON and steps away, at a safe distance prior to lighting.

The ignition sequence is as follows:

1. Turn the manual key valve to the ON position.
2. Turn the fire pit ON by pressing the ON button of the remote control. The hot surface igniter will heat up and begin to "glow" within 5-6 seconds.
3. Once the hot surface igniter heats up, the pilot gas valve opens, a "click" is heard, and gas is released to the burner, lighting the fire pit.

The entire ignition sequence ignites within 20 seconds or less. If not, press the OFF button on the remote control and wait 5 minutes before trying again.

TURNING OFF FIRE PIT/FEATURE

1. Turn the fire feature OFF by pressing the OFF button on the remote control (or switch/timer if applicable).
2. If you are no longer burning the fire pit until another time, we recommend turning the key valve to OFF position.
## AWS REPLACEMENT PARTS LIST

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### Valve Box Reference

- 2-pin Igniter Connector
- 2-pin Thermopile Connector
- Flared Pilot Connection
- Compression Pilot Connection
Sequence of Operation

1. Fire Feature Turned ON

2. First Pilot with Hot Surface Igniter Heats Up and Glows (5-6 seconds)

3. Secondary Pilot Opens; “Click” is Heard; Gas is Released to Burner

4. Fire Feature is Lit Until Turned OFF

The system is designed to relight itself if blown out. It will try (3) times to relight before it goes into a “hard” lock out. Then it must be turned OFF and back ON to reset it.

START UP ISSUES

1. Turned the Fire Feature ON... but nothing happens.

- **No Power** - Check for power at the fire feature(s). Confirm proper power is being supplied to the system. 30VDC from power supply to valve and 120VAC volts where power supply is plugged into.
- **Defective Controller** - If for some reason someone connected 120VAC power directly to the gas valve, the controller inside the valve box will be damaged. If this happens, a burned electrical smell might be present.

2. Glow Plug does not glow.

- **Connector Not Plugged In Correctly** - Check the 2-Pin connector from pilot to the gas valve. Ensure it is plugged into place with the locking latch.
- **Pins Not Secure** - Check the pins inside the 2-pin connector, ensure they are not loose. If loose push them back in until tight and try system again.
- **Possible Defective Igniter** - Unplug the igniter and check resistance across the two pins inside the plastic housing coming from the pilot assembly. Use a multi-meter to check resistance. No resistance or resistance greater than 8 ohms indicates a defective igniter. Page 27 valve reference shows the igniter and thermopile 2-pin connections for testing.
3. Glow Plug Glows, But Does Not Ignite the Gas

- **Insufficient Power** - If the glow plug is not getting enough power, it will not get ignite the gas.
- **Thin Wire** - The recommended minimum wire gauge is 12AWG. If wire is less than 12-gauge there may not be enough power to get the igniter hot enough.
- **No Gas** - Was the gas line purged of air. If gas line was not bled it may take a while before the gas gets to the fire feature.
- **Manual Shut Off Valve** - Is the manual shut-off or key valve open?
- **Debris** - Debris can get trapped inside the screen of the gas valve. Excessive amounts of pipe dope or Teflon tape and restrict gas flow.
- **Debris in Pilot Burner** - New gas lines, until bled, have air and will have some debris. Ensure gas it turned OFF and electrical is unplugged. Remove the two brass fitting from the gas valve, then use “canned air” to blow through the pilot outlets.
- **Wrong Pilot Orifice** - If the wrong pilot orifice is installed into the primary pilot it will not light.
- **Oxygen Starvation** - To ignite gas we need oxygen, fuel and a heat source. If the pilot assembly is buried underneath the glass media or lava rock it will not allow the pilot to light.
- **Weak Igniter** - In some cases, from the manufacturer’s glow plug will have slight difference in assembly which can cause some igniter’s burn hotter than others. These are tested before they are sent to customers but sometimes a weak one can get out. If this occurs, the symptom will always be the same - inconsistent or no ignition at all. In this case, replace the pilot burner.

4. Pilot Lights, But No Flame to the Main Burner

- **Valve Box Installed Backwards** - Check the label on the gas valve box and ensure the burner is connected to the OUTLET side of the gas valve box.
- **Thermopile Pins Not Secure** - Check the pins in the pilot burner connector, remove it from the gas valve and check for loose pins. If loose, push inward until tight and try again. If this happens, the glow plug will stay ON for up to 30 seconds before turning OFF. It normally shuts off in about 5 seconds.
- **Defective Thermopile** - Thermopile’s rarely go bad however if a product is used consistently for extended periods of time a thermopile can get too hot (like a blow torch) and eventually cause it to swell. Simply loosen the thermopile from the pilot assembly and slide it out. If it will not slide out because is it too tight, then it will need to be replaced.
- **Debris** - Debris can get trapped inside the screen of the gas valve. Over time rust and other debris can restrict the gas flow on the Outlet screen of the valve that can partially or sometimes even stop the flow. Inspect the screen, remove it and clean it then replace it.
- **Defective Controller or Main Gas Valve** - If you have inspected the thermopile connections and no debris is on the controller or gas valve; checked the power, then the gas valve or controller may be defective and will need replaced.

5. Fire Features Lights... Turns OFF Within A Few Seconds... and Restarts Again (Keeps repeating this sequence)

- **Gas Volume Insufficient** - When initially turning ON the fire feature pilot is lit and there is enough gas for the pilot to light, however once main gas valve is turned ON, the flow of gas to pilot drops not providing enough gas to keep the thermopile hot enough therefore the pilot will drop out and relight. This is usually caused by insufficient Gas Volume and can be caused by installing gas pipe too small to deliver proper amount of gas or by installing a Manual Gas Shutoff (Ball valve or Key Valve) with a capacity that is too small to allow enough gas to pass through to the feature.
- **Main Burner Orifice Not Installed** - Ensure the correct orifice is being used. If using LP gas it should have vent holes, Natural gas does not. See Fig. 3, page 8. The orifice/air mixer restricts the amount of gas flowing to the Main Burner. This restriction ensures that not ALL the gas will flow to the Main Burner, so there is still enough gas left for Pilot Burner.
- **Oxygen Starvation** - to ignite gas we need oxygen, fuel and a heat source. If the pilot assembly is buried underneath the glass media or lava rock it will not allow the pilot to light.
- **Defective Thermopile** - See Symptom 4, page 29 for Defective Thermopile.
- **Defective Controller** – If your plumbing is supplying enough gas, the Main Burner orifice is installed, the Pilot Burner is getting plenty of air and the Thermopile is not defective the only thing left is a Defective Controller inside the valve box. If you have a Defective Controller the only way to fix it is to replace it.
6. Fire Feature Cycles (Turns On and Off) Every Few Minutes

- Gas Volume Insufficient – See symptom 5 page 29 for “Gas Volume Insufficient” for detailed explanation.
- Oxygen Starvation (Pilot Burner) – See symptom 5 page 29 for “Oxygen Starvation” for detailed explanation.
- Defective Thermopile – See symptom 4 page 29 for “Defective Thermopile” for detailed explanation.
- Defective Controller – See symptom 5 page 29 for “Defective Controller” for detailed explanation.

7. Main Burner Flame Lazy/Small or Flame NOT Spread Out Over Entire Burner

- Debris On Inlet Screen; Valve Box – See symptom 3, symptom 4, page 29 for “Debris on inlet screen for detailed explanation.
- Debris On Outlet Screen; Valve Box – See symptom 4, page 29 for “Debris on outlet screen for detailed explanation.
- Obstruction In Plumbing Between Gas Valve Outlet and Main Burner – If your plumbing was sized correctly to deliver the proper amount of gas and the screens in the valve box are clean, inspect the plumbing between the valve and the burner for obstructions. Also, inspect inside the burner inlet to ensure no obstructions in there as well.

8. Main Burner Flame “Flares Up” Every Few Minutes

- Fire glass/Media Layer too Thick – Fire glass/media comes in different sizes. Use only ½” - ¾” diameter. If you put a thick layer of fire glass/media on top the burner, over 1” in depth; there is a good chance some of the gas will get “trapped” within the media while the feature is ON. When this happens, the trapped gas in the fire feature ignites and you see the “Flare Up” effect. Remove some of the fire glass/media from the burner to see if this fixes the problem.
- Gas Leak – Natural Gas is lighter than air therefore when released into the atmosphere it rises. If you have a Natural Gas fire feature and there is a gas leak the Natural Gas will rise to the top of the feature. Once it encounters the flame a flare up will occur. Propane is heavier than air so if there is a gas leak when using propane the gas will fall into the bottom of the feature. That is why it is REQUIRED drainage/ventilation be installed at the bottom of the feature when using Propane. You do NOT want Propane accumulating inside the fire feature.

SHUTDOWN ISSUES

9. Turn the Feature OFF…but a Small Flame Continues to Burn in the Pilot Burner

- Leak in the Pilot Burner Gas Valve – When debris enters the gas valve by way of either the Inlet or outlet there is a chance some of that debris will enter the Pilot Burner Gas Valve and contaminate the seal inside the valve. If this occurs, the possibility exists the valve will not seal properly when turned OFF thereby allowing a small amount of gas to flow even after turned OFF. Often this will result in a small flame that continues to burn in the Pilot Burner after the feature has been turned OFF.

10. Turn the Feature OFF…But Small Flames Continue to Burn Out the Main Burner

- Leak in the Main Burner Gas Valve - when debris enters the gas valve by way of either the Inlet or Outlet there is a chance some of that debris will enter the Main Burner Gas Valve and contaminate the seal inside the valve. If this occurs the possibility exists the valve will not seal properly when turned off thereby allowing a small amount of gas to flow even after turned off. Often this will result in a small flame that continues to burn on the Main Burner after the feature has been turned OFF.
The following accessories are available from your local Firegear Outdoors dealer/distributor. Each accessory comes with a separate installation manual. Read each instruction thoroughly before installing.

### Stainless Round Pans
- **Models:**
  - PAN-SS19R - 19” Inside Dimension
  - PAN-SS25R - 25” Inside Dimension
  - PAN-SS29R - 29” Inside Dimension
  - PAN-SS33R - 33” Inside Dimension

### Stainless Round Flat Disc
- **Models:**
  - PAN-SS26D - 26” Outside Dimension
  - PAN-SS29D - 29” Outside Dimension
  - PAN-SS34D - 34” Outside Dimension
  - PAN-SS44D - 44” Outside Dimension

### Stainless Square Pans
- **Models:**
  - PAN-SS20 - 20” Inside Dimension

### Stainless Square Flat Disc
- **Models:**
  - PAN-SS26D - 26” Outside Dimension
  - PAN-SS29D - 29” Outside Dimension
  - PAN-SS34D - 34” Outside Dimension
  - PAN-SS44D - 44” Outside Dimension

### Stainless Linear Pans
- **Models:**
  - PAN-SS3010L - 30”x 10” Inside
  - PAN-SS3612L - 36”x 12” Inside
  - PAN-SS4814L - 48”x 14” Inside
  - PAN-SS3006L - 30”x 6” Inside
  - PAN-SS4806L - 48”x 6” Inside
  - PAN-SS6006L - 60”x 6” Inside

### Shut-Off Valves
- **Model:** 01-387 ⅝” OD Flare x ½” FIP
- **Model:** 01-487 ⅜” OD Flare x ⅜” FIP
- **Model:** 01-266 ⅝” OD Flare x ⅝” OD Flare
- **Model:** 01-288 ⅜” OD Flare x ⅜” OD Flare

### Vent Kits
- **Model:** VENT-KIT-6X12SS (provides 18 sq. in of ventilation per side of enclosure)
- **Model:** PAVER-VENT-4LNTS
- **Model:** PAVER-VENT-6LNTS

### Stainless Linear Pans
- **Model:** FLEXFRAME-SS (2pc.)
- **Model:** FLEXFRAME-SS3 (3pc.)

### Burning Spur Kit (6 leg burner)
- DBS-12K - 12” stainless steel burner
- DBS-16K - 16” stainless steel burner
- DBS-22K - 22” stainless steel burner
- DBS-31K - 31” stainless steel burner
- DBS-36K - 36” stainless steel burner

### Fire Ring Burner Kit (round ring)
- FG-FR-6SSK - 6” stainless burner
- FG-FR-12SSK - 12” stainless burner
- FG-FR-18SSK - 18” stainless burner
- FG-FR-24SSK - 24” stainless burner
- FG-FR-30SSK - 30” stainless burner
- FG-FR-36SSK - 36” stainless burner
- FG-FR-48SSK - 48” stainless burner

### Log Sets
- **Model:** L-SF (Spit Fire) - 17pc (52lbs)
- **Model:** L-BF (Beach Fire) 8pc (20lbs)
- **Model:** L-Sedona (Sedona) 19pc (200lbs)
- **Model:** 326-930 Twigs 6pc (20lbs)

### Glass Windshields
See catalog for a windshield to fit your application.

### H-Style Burner Kits (linear)
- FG-H-24SSK - 24” stainless burner
- FG-H-30SSK - 30” stainless burner
- FG-H-36SSK - 36” stainless burner
- FG-H-48SSK - 48” stainless burner

### Log Sets
- **Model:** L-SF (Spit Fire) - 17pc (52lbs)
- **Model:** L-BF (Beach Fire) 8pc (20lbs)
- **Model:** L-Sedona (Sedona) 19pc (200lbs)
- **Model:** 326-930 Twigs 6pc (20lbs)

### Glass Windshields
See catalog for a windshield to fit your application.

**NOTE:** See the Firegear Outdoors catalogue for a variety of fittings and flex connectors also available.
### OPTIONAL ACCESSORIES

| **Emergency Stop**  
| (Emergency shut-off valve) |
| **Model:** FG-EMER-STOP (includes J-Box and weatherproof cover) |

| **ON-OFF Switches** |
| **Model:** FG-WS-OD (On-Off Wall Switch; includes J-Box and weatherproof cover) |
| **Model:** FG-1420-AOD (Remote Control; includes J-Box and weatherproof cover) |

| **Key Valve** |
| **Model:** KV-PC-12 |

High capacity straight valve with polished chrome cover and 12" key. Rated for 350,000Btu's @ ½" PSI

| **Timer**  
| (Mechanical gas timer) |
| **Model:** FG-TIMER-2HR |

* Includes weatherproof J-box and cover

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**FOR TECHNICAL SERVICE, CALL:**  
(800) 966-8126

Firegear Outdoors  
17322 Gothard St  
Huntington Beach, CA 92647  
Web Site: www.firegearoutdoors.com

Manual changes often occur, ensure to check the Firegear Outdoor website for any recent updates and warranty information.
Firegear Outdoors hereby warrants to the end user that products will be free from material and workmanship defects that prevent safe and correct operation of the product. The warranty commences from date of sale to the end user for the following period:

**CONSUMER RESIDENTIAL APPLICATIONS – MANUFACTURED AFTER 12/02/2019**

**BURNER SYSTEMS, BURNERS, COMPONENTS AND ACCESSORIES**
- LIFETIME WARRANTY ON CONSTRUCTION AND MANUFACTURER DEFECTS
- LIFETIME WARRANTY - STAINLESS STEEL BURNERS AND PANS
- LIFETIME WARRANTY - BRASS BURNERS
- FIVE (5) YEAR WARRANTY - GAS VALVE, SPARK IGNITER, PILOT ASSEMBLIES
- FIVE (5) YEAR WARRANTY - AWS ELECTRONIC IGNITION SYSTEMS (24VAC, 30 VDC)
- FIVE (5) YEAR WARRANTY - TFS/TMSI ELECTRONIC COMPONENTS
- FIVE (5) YEAR WARRANTY – MT COMPONENTS (KEY VALVE)
- FIVE (5) YEAR WARRANTY - REFRACTORY GAS LOG SETS
- FIVE (5) YEAR WARRANTY - READY TO FINISH/ANF FIRE PIT ENCLOSURES
- FIVE (5) YEAR WARRANTY – SKYTECH MANUFACTURED OPTIONAL CONTROLS

**OUTDOOR FIREPLACE – KALEA BAY**
- LIFETIME WARRANTY - CONSTRUCTION AND MANUFACTURER DEFECTS
- LIFETIME WARRANTY - STAINLESS STEEL COMPONENTS
- FIVE (5) YEAR WARRANTY - GAS VALVE, PILOT ASSEMBLY, POWER SUPPLY, CONTROLS
- FIVE (5) YEAR WARRANTY – SKYTECH MANUFACTURED OPTIONAL CONTROLS

**SANCTUARY SERIES – GFRC FIRE FEATURES**
- THREE (3) YEAR WARRANTY - GFRC STRUCTURE
- REFER TO THE APPROPRIATE BURNER SYSTEM FOR WARRANTY
  
  WARRANTY COVERS MANUFACTURING DEFECTS OR STRUCTURAL FAILURE. SMALL STRESS CRACKS AND SURFACE CRAZING ARE A NATURAL OCCURRENCE IN GFRC PRODUCTS AND NOT COVERED BY WARRANTY.

**READY TO FINISH/ANF ENCLOSURES**
- FRAME – LIFETIME WARRANTY ON CONSTRUCTION AND MANUFACTURER DEFECTS

**ACCESSORIES**
- LIFETIME WARRANTY - CONSTRUCTION AND MANUFACTURER DEFECTS
- LIFETIME WARRANTY - STAINLESS STEEL COMPONENTS (LIDS, STAINLESS STEEL COVERS)
- ONE (1) YEAR WARRANTY – ESTOP1-OH, ESTOP2-5H WINDSHIELDS, HOSES AND REGULATORS
COMMERCIAL APPLICATIONS – MANUFACTURED AFTER 12/02/2019

BURNER SYSTEMS, BURNERS, COMPONENTS AND ACCESSORIES
- TWO (2) YEAR WARRANTY ON CONSTRUCTION AND MANUFACTURER DEFECTS
- TWO (2) YEAR WARRANTY - STAINLESS STEEL BURNERS AND PANS
- TWO (2) YEAR WARRANTY - BRASS BURNERS
- TWO (2) YEAR WARRANTY - GAS VALVE, SPARK IGNITER, PILOT ASSEMBLIES
- TWO (2) YEAR WARRANTY - AWS ELECIGN SYSTEMS (24VAC, 30 VDC)
- TWO (2) YEAR WARRANTY – MT COMPONENTS (KEY VALVE)
- TWO (2) YEAR WARRANTY - REFRATORY GAS LOG SETS
- FIVE (5) YEAR WARRANTY - READY TO FINISH/ANF FIRE PIT ENCLOSURES
- TWO (2) YEAR WARRANTY – SKYTECH MANUFACTURED OPTIONAL CONTROLS

OUTDOOR FIREPLACE – KALEA BAY
- LIFETIME WARRANTY - CONSTRUCTION AND MANUFACTURER DEFECTS
- LIFETIME WARRANTY - STAINLESS STEEL COMPONENTS
- TWO (2) YEAR WARRANTY - GAS VALVE, PILOT ASSEMBLY, POWER SUPPLY, CONTROLS
- TWO (2) YEAR WARRANTY – SKYTECH MANUFACTURED OPTIONAL CONTROLS

SANCTUARY SERIES – GFRC FIRE FEATURES
- THREE (3) YEAR WARRANTY - GFRC STRUCTURE
- REFER TO THE APPROPRIATE BURNER SYSTEM FOR WARRANTY
  
  WARRANTY COVERS MANUFACTURING DEFECTS OR STRUCTURAL FAILURE. SMALL STRESS CRACKS AND SURFACE CRAZING ARE A NATURAL OCCURRENCE IN GFRC PRODUCTS AND NOT COVERED BY WARRANTY.

READY TO FINISH/ANF ENCLOSURES
- FRAME – LIFETIME WARRANTY ON CONSTRUCTION AND MANUFACTURER DEFECTS

ACCESSORIES
- LIFETIME WARRANTY - CONSTRUCTION AND MANUFACTURER DEFECTS
- LIFETIME WARRANTY - STAINLESS STEEL COMPONENTS (LIDS, STAINLESS STEEL COVERS)
- ONE (1) YEAR WARRANTY – ESTOP1-OH, ESTOP2-SH WINDSHIELDS, HOSES AND REGULATORS
The end-user must provide a bill of sale, canceled check, or payment record to verify the purchase date and to establish the warranty period. This Limited Warranty shall be valid and limited to the original purchaser only.

**WARNING** Any modification to the product will void the warranty.

This Limited Warranty shall be limited to the repair and/or replacement of parts that have been proven to be defective under normal use and service. All warranty claims must be made by the OEM/Distributor/Dealer account on behalf of the end-user. You may contact Technical Support at 800-966-8126.

Our Technical Service Department must confirm all approved defects. If a defect is confirmed and we approve the claim, we will replace such parts without charge. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

The manufacturer may request defective products returned with an RMA (Return Merchandise Authorization) issued by Firegear Outdoors for specific products, which is considered to be the nature of the defect and or warranty claim. Product to be returned should; be packed so as not to incur damages during transportation. Firegear is not responsible for damages on returned items. RMA is valid for thirty (30) days from the date issued. The RMA must be clearly marked on the outside of the package.

Please check with your local building code department or governing agency for proper approvals before purchasing. Firegear Outdoors is not responsible for any violation of local codes.

Travel, diagnostic cost, service labor to repair the defect on warranty parts to and from the factory will be the responsibility of the owner. We will not be responsible for labor charges and/or damage incurred in installation, repair, and replacement. Firegear is not responsible for Issues related to gas or electrical installation.

The Limited Warranty is voided if not assembled, installed, and operated as intended. This Limited Warranty does not cover any defects due to accident, abuse, misuse, alteration, misapplication, vandalism, improper installation or improper maintenance or service, removal from the original location, or re-installation into another location, or failure to perform normal and routine maintenance.

Damage due to severe weather conditions such as hail, hurricanes, earthquakes, tornadoes, discoloration due to overheating, exposure to chemicals (including chlorine and salt), either directly or in the atmosphere, or very high humidity, is not covered by this Limited Warranty. Costal, humid and/or salt environments are subject to manufacturer review. All out-of-box claims must be made within 30 days of purchase and must be made prior to installation. Any product installed damaged will be considered damaged during installation and not covered under warranty.

There are no other express warranties except as set forth herein. For consumer applications, any applicable implied warranties of merchantability and fitness are limited in duration to the period of coverage of this Limited Warranty. Some states do not allow limitation on how long an implied warranty lasts, so this limitation may not apply to you.

For Commercial Applications, the liability of Firegear Outdoors is limited to the express terms of this warranty. We expressly disclaim any and all implied warranties, including any warranties of fitness for a particular purpose or merchantability.
We are not liable for any special, indirect or consequential damages. Our maximum liability is limited to the purchase price of the purchased units. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you.

We do not authorize any person or company to assume for it any other obligation or liability in connection with the sale, installation, use, removal, return, or replacement of its equipment, and or such representation are binding.

Firegear Outdoors
17322 Gothard Street, Huntington Beach, CA 92647
www.firegearoutdoors.com
Phone: 800-966-8126
Email: order@firegearoutdoors.com
Having problems getting the fireplace to operate? Don’t leave the job site! We want to help! Call 800.966.8126 for Technical Support between the hours of 8:00AM to 5:00PM PST.

BEFORE YOU CALL WE WILL NEED THIS INFORMATION

1. Model Number: ___________________________

2. Serial Number: ___________________________

3. How long is the gas line run? Nat Gas ____ LP Gas ____

4. What size is gas line? _____

5. Inlet Gas Pressure: _____WC
   Manifold Gas Pressure: _____ WC

6. What type of media are you using? ________________

7. Review the troubleshooting section in the installation manual.

8. What are the symptoms? Please be prepared to explain.

9. Be prepared to send photos to us when on the phone.

10. Found missing or damaged parts? Let us know ASAP or send photos.