

GRAND EFFECTS

Linear Fire Bar Inserts

(Automated Operation)

OWNER'S MANUAL / OPERATING AND MAINTENANCE INSTRUCTIONS

For your safety:

If you smell gas:

1. Shut off gas to the appliance
2. Extinguish any open flame near unit.
3. If odor continues, immediately call your gas supplier

For your safety:

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



This manual should remain with the homeowner or parties responsible for operation.

(Rev -)

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1.0 Gas and Electrical requirements:

- 1.1 Input Voltage: 120 Vac / 60 Hz to Grand Effects Control Panel
- 1.2 Gas type: Natural Gas Propane
- 1.3 Gas Pressure: Nominal: 7" wc 11"wc

1.4 Gas Requirements:

Length	36"	48"	60"	72"	84"	96"	108"	120"
(Btu/Hr)	120,000	155,000	190,000	225,000	260,000	295,000	330,000	365,000

Note: Check with your gas supplier to verify gas flows and pressures available at the location of your installation. In many cases utility companies will install larger meters at no charge to accommodate larger flows.

2.0 Installation for Linear Fire Pit Insert

**Warning: This unit is for outdoor use only
Recommended CSA/AGA Clearances: Sides 4 ft
unit is for outdoor use only**

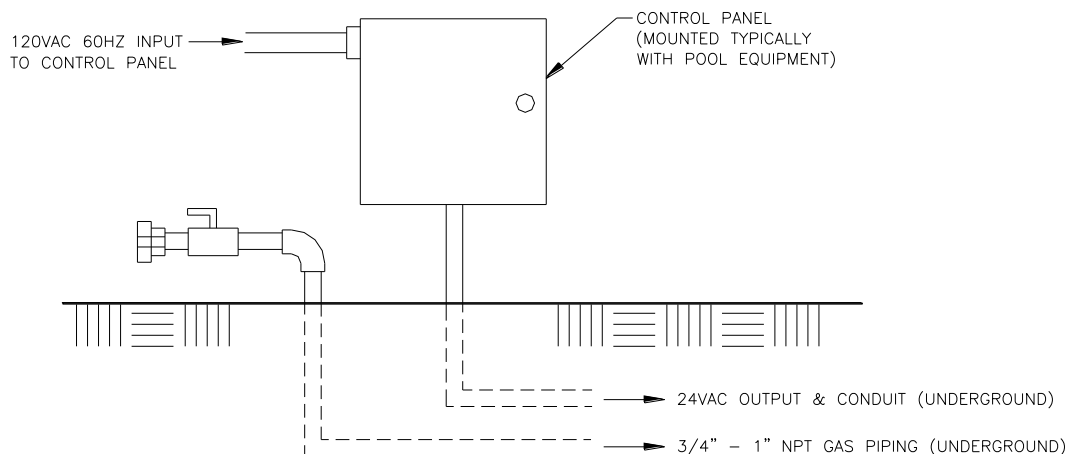
- 2.10 Do not install near any combustibles such as wood structures, fuels, clothing, fabrics or dry vegetation.
- 2.15 Install Fire Feature well out of the way of pedestrian traffic.
- 2.20 Installation shall be performed by a licensed contractor. All aspects of installation must conform to local or National codes, or in the absence of codes, with National Fuel Gas Code ANZI Z223.1.
- 2.25 The Control Panel and approved manual gas valve shall be located where they can be easily accessible so that the gas can be shut off quickly in case of an emergency.
- 2.30 Install the Control Panel and gas piping as shown in Fig. 1(Natural Gas) or Fig. 2 (Propane Gas) or Fig. 3 (Commercial Installation). Gas lines must be clean and free from any dirt, debris or contamination
- 2.35 Note that piping is different for propane than natural gas as shown in Fig. 1 and Fig. 2 A Propane Adder Valve is required with propane. It is installed upstream of the Line Burner and serves as a redundant safety valve located upstream in the propane line.
- 2.40 Low voltage 14 or 16ga wiring (24Vac) shall be installed underground between the Control Panel and SubPanel. Wire per Grand Effects Wiring Diagram. 120v source into Control Panel can come from any 120v source, including pool controller or home system. Typically, the pool controller is the device that turns the unit on/off. If a pool controller is not available, Grand Effects can provide a hand held remote system or an electrician can wire a decorative switch for on/off control upstream of the Grand Effects Control Panel.
- 2.45 Build structure so that inside dimensions meet requirements shown in Fig. 5

- 2.50 Do not use fire brick to line the inside of the Linear FirePit. Fire brick will retain heat and may result in over heating of the electronics.
- 2.55 Providing good drainage is critical as shown in Fig. 6
- 2.60 Venting (air gap at bottom of Linear Fire Pit side and end walls) is required as shown in Fig. 6 to keep wiring and electrical components from overheating.
- 2.65 Maintain good piping practice by keeping pipe length and elbows to a minimum to eliminate unnecessary pressure drops(**Do not use any corrugated flexible gas line**).
- 2.67 SubPanel can be mounted **OUTSIDE** of trough (Outside Mount-Fig.7) or **INSIDE** of trough (Inside Mount-Fig.8). **Outside Mount requires the gas and electrical to be located outside and at end of trough. Inside Mount requires gas and electrical to be located inside and at end of trough.**
- 2.70 Mount the Support Plate using the L Brackets provided. The Support Plate should be mounted so that top of Burner is 1/2"-1" below top of wall or cap. (shown in Fig. 6) The Support Plate should rest on top of the L Brackets.
- 2.77 On commercial installations, it is recommended to install a keyed switch and kill switch located in close proximity and in visible sight of feature or features. The keyed and kill switches are supplied by others.

IMPORTANT!!

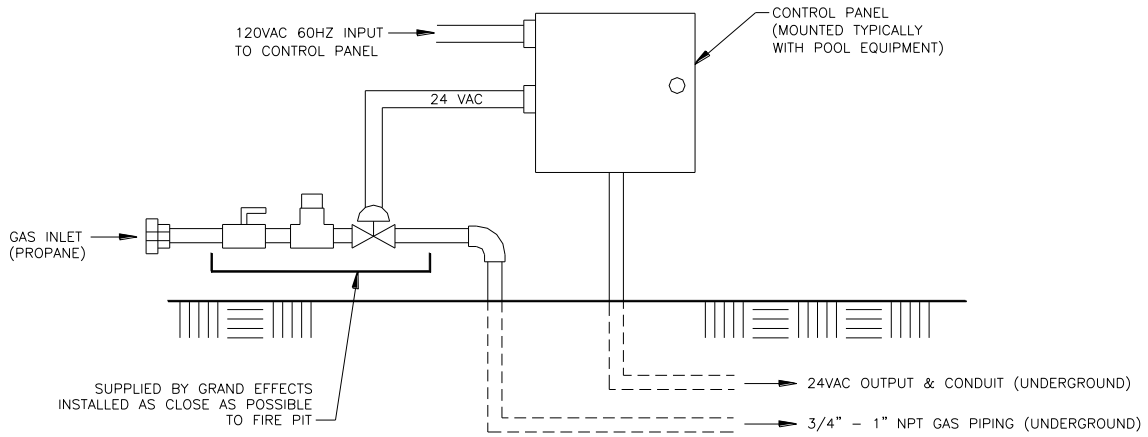
- Note: 16" Minimum Depth Requirement (SubPanel Inner Mount-shown in Fig. 6)**
- 10" Minimum Depth Requirement (SubPanel Outer Mount-shown in Fig. 6)**

Venting is required for cooling Burner Assembly (as shown in Fig. 6)



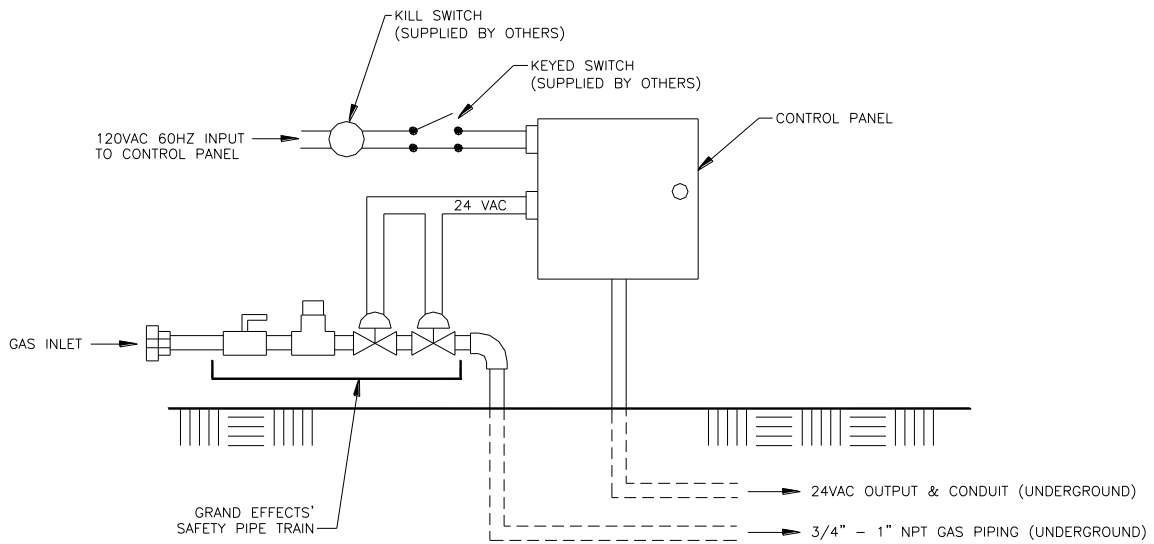
Set up for Natural Gas

Fig. 1



Set up for Propane Gas

Fig. 2



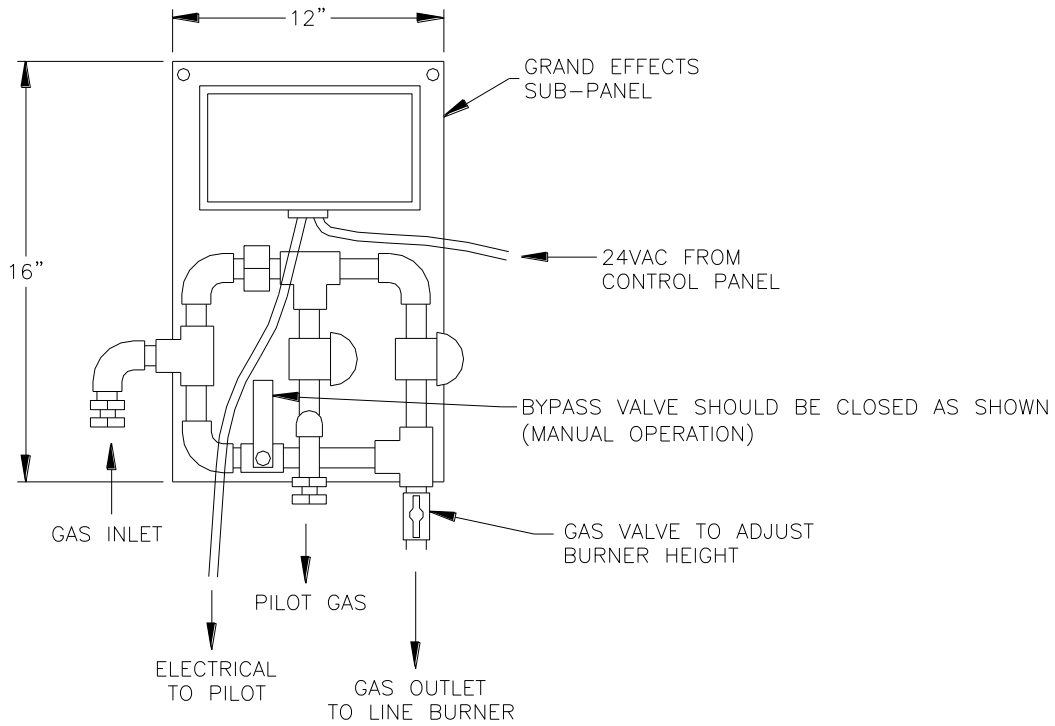
(Commercial Installation)

Fig. 3

**NOTE: Inside Mount requires SubPanel to be mounted inside and at end of trough.
Outside Mount requires SubPanel to be mounted on outside wall trough.**

IMPORTANT!

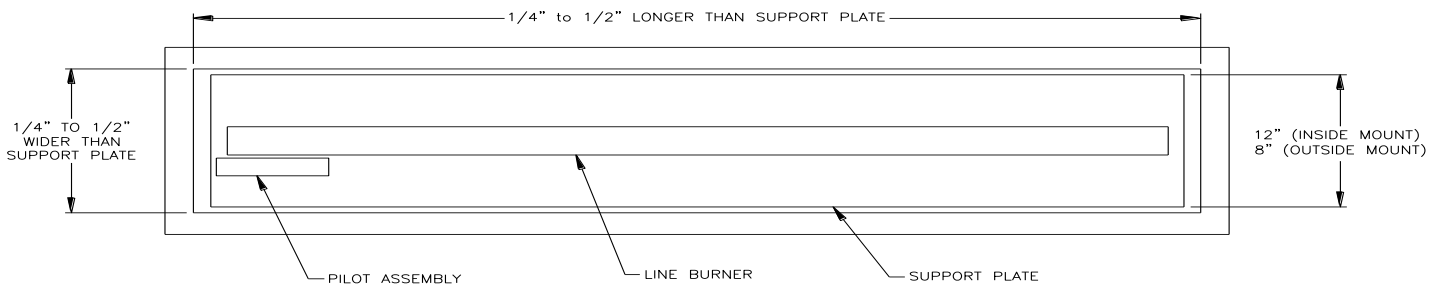
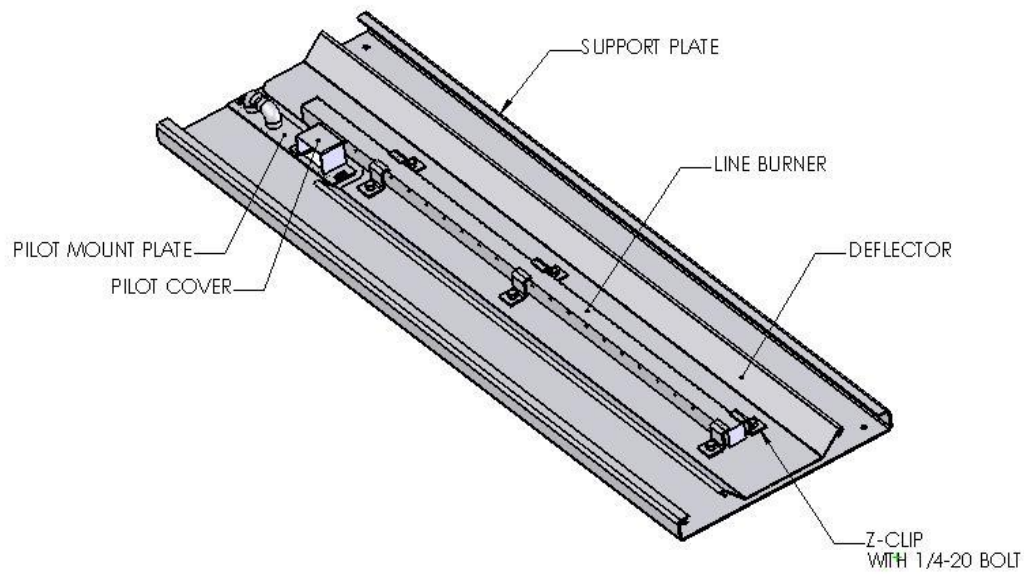
Sub Panel must be installed within 4 ft of Pilot Assembly located at end of Burner Assembly. Grand Effects pilot gas hose and electrical wires to pilot is 4ft maximum.



(Sub-Panel)
Fig. 4

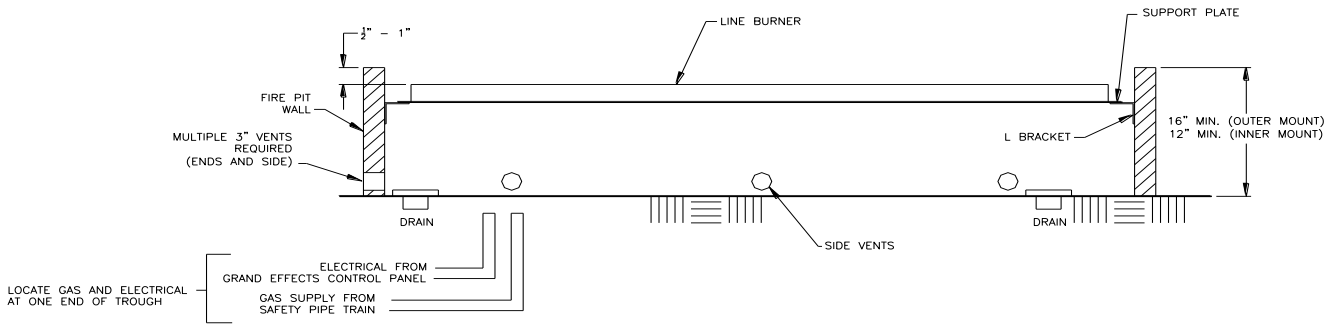
SUPPORT PLATE DIMENSIONS (L x W)

Burner Length	Outer Mount	Inner Mount
3 ft	44" x 10"	60" x 13"
4 ft	56" x 10"	72" x 13"
5 ft	68" x 10"	84" x 13"
6 ft	80" x 10"	96" x 13"
7 ft	92" x 10"	108" x 13"
8 ft	104" x 10"	120" x 13"
9 ft	116" x 10"	132" x 13"
10 ft	128" x 10"	144" x 13"



Top View of Trough and Burner Assembly

Fig. 5



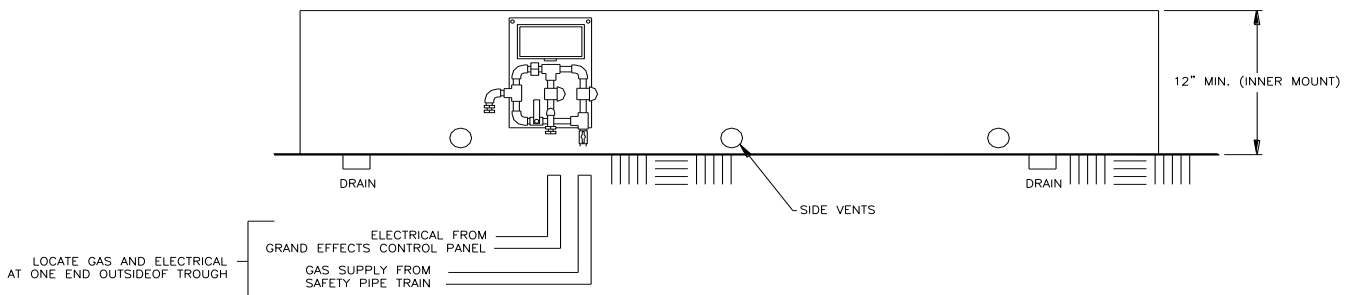
Cut Away of Trough Section

Fig. 6

Note: Gas and Electrical should be located INSIDE of trough for INSIDE MOUNT and OUTSIDE of trough for OUTSIDE MOUNT

IMPORTANT!

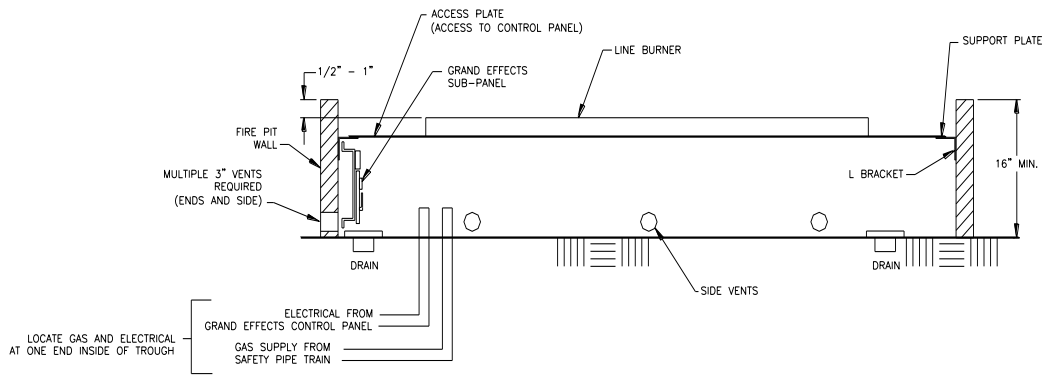
Sub Panel must be installed within 4 ft of Pilot Assembly located at end of Burner Assembly. Grand Effects pilot gas hose and electrical wires to pilot is 4ft maximum.



Note: Gas and Electrical should be located outside of trough at one end.

SUBPANEL (OUTSIDE MOUNT)

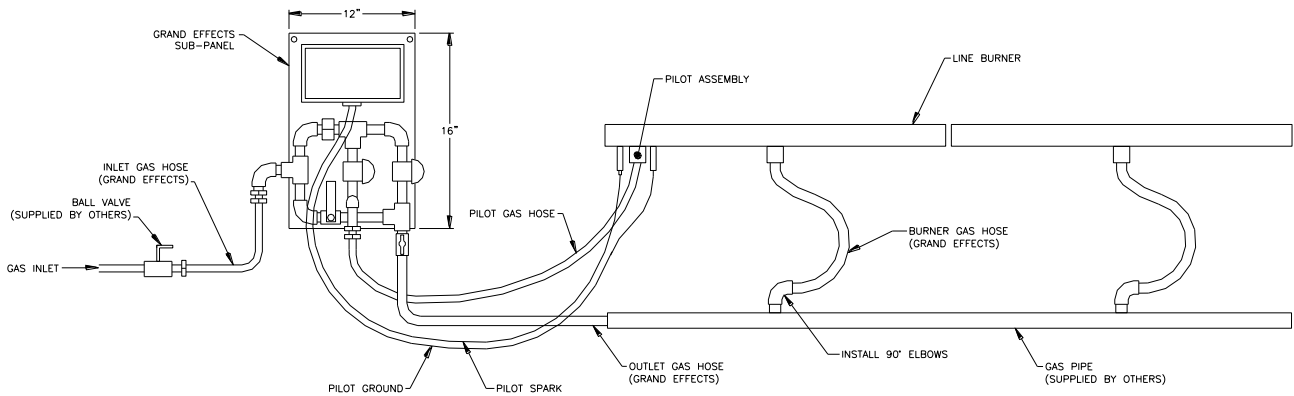
Fig. 7



**Note: Gas and Electrical should be located inside of trough at one end.
Do not mount SubPanel on floor or side walls. SubPanel must be mounted vertical on end wall closest to Pilot Assembly on Burner.**

SUBPANEL (INSIDE MOUNT)

Fig. 8



PIPING CONFIGURATION

Fig. 9

- 2.80 Mount SubPanel (inside mount should be mounted vertically at end of wall) This will allow access for service.
- 2.85 Connect inlet and outlet gas hoses supplied by Grand Effects, making sure all connections are tight. Keep hoses away from underside of Support Plate. (away from heat)
- 2.90 Connect ignitor and ground wires at pilot to SubPanel.

Important: Do not kink or make sharp radius on gas hose. Make sure gas hoses are not touching underside of Support Plate.

5.0 Burner Setup and Adjustment

- 5.10 With the upstream gas valve in the “closed” position and 110Vac coming into the Control Panel, turn the switch located in the panel to the “OFF” position.
- 5.20 At the Burner Assembly, check that the spark electrode is arcing across the gap. You should be able to hear and see the electrode spark. If there is no spark, check that the SubPanel is receiving 24vac from the Control Panel.
- 5.30 Open the upstream gas valve.
- 5.40 In the Control Panel, turn the switch to the “On” position.

Note: At this time the Burner Assembly should ignite.

If it does not light, it may be a result of air in the gas line.

Purging the air from the gas line will be required. Open up Manual Bypass valve on the Subpanel. This will purge air from gas line.

Close Manual Bypass valve when attempting to light. After purging is complete, make sure area is vented and free from built up gas.

Caution: When purging air from a propane system, disconnect wires going to Burner Assembly (terminals X1/X2) located in Grand Effects Control. There should be no power at Burner Assemblies when purging Propane. Propane Adder valve should remain wired and energized when Purging. Open up Manual Bypass valve on the Subpanel. This will purge air from gas line. Reinstall wires at X1/X2 terminals, thus providing to power to Burner Assembly. After purging is complete, make sure area is vented and free from built up gas.

- 5.50 After the “Burner Assembly” has been lit, it can now be adjusted for flame size.
- 5.60 The height of the flame can be adjusted by opening or closing the red handled ball located on the SubPanel. On propane installation you can adjust red handled valve on SubPanel or gas valve provided with propane adder. Flame height should be adjusted to 6”-10”. Excessive flame height can result in overheating of the burner.
- 5.70 Install decorative rock or glass on top of “Burner Support Plate” and “Burner”. Larger lava rock is recommended (2”-4” in size). It will work better than smaller rock. Make sure that all rock is clear of the pilot area and hood area. Pilot Hood area needs to remain clear of rock for proper operation.
- 5.80 Note: **Do not use glass with propane installations.** (If you use glass with natural gas, and you have more than a ¼” gap between inside wall and Support Plate, you will need to lay down stainless mesh screen to prevent glass from falling through) If you use ¼” pieces of lava it should be treated as a glass installation).

CAUTION!! Lava Rock is an accepted medium for fire features. However, pieces may pop or explode when exposed to heat or when wet and exposed to heat. Use caution when in immediate area.

IMPORTANT: Do not use fire glass with propane installations!!

6.0 Maintenance

- 6.10 Periodically clean the Burner Assembly with a wet cloth or cleaning solution to remove carbon build-up.
- 6.20 Frequency of the cleaning will depend on usage.
- 6.30 Periodically inspect the underside of the Burner Assembly for any signs of excessive temperatures.
- 6.40 Check that all gas connections are tight.
- 6.50 The units should be cycled frequently (especially after a rain). The Burner Assemblies will not work in snow and ice conditions. They should be covered or removed for storage in snow and ice conditions. The Units should not be operated in high wind conditions. High winds can limit the cooling air required for cooling of the Burner Assembly.
- 6.60 Gas should be securely shut-off during non use.

IMPORTANT: The System should be cycled ON/OFF after a rain to remove any water in the pilot area.

Note: If any problems are present, consult a licensed heating specialist or call Grand Effects.

7.0 Operation (Automated)

Warning: This unit is for outdoor use only

For your safety:

1. If you smell gas, shut off Gas Valve immediately.
2. Extinguish any open flame.
3. If odor continues, immediately call your gas supplier.
4. Do not store or use gasoline or other flammable vapors and / or liquids in the vicinity of this appliance.
5. Do not leave flame on while unsupervised.
6. Do not operate in windy or rainy conditions. If this is done, unit will cycle on and off automatically.
7. Unit should be operated only by a responsible adult.
8. When in use, an open flame is present, therefore, use with extreme care and at your own risk.
9. Before any inspection of the unit, always turn off power and gas supply at the Control Panel.
10. If you experience problems with this unit, call Grand Effects or a licensed heating professional. All work on this unit shall be performed by a licensed heating professional.

Caution! Before you turn on the Grand Effects System, make sure that it is clear of people, animals or any objects that are combustible.

Operating Instructions:

To turn unit "On":

1. Turn Burner Power "On".

To turn unit "Off":

1. Turn Burner Power "Off".

Note: If Burner fails to light, turn corresponding Burner Switch in the Control Panel to the "Off" position then to the "On" position. This will initiate a new trial for ignition.

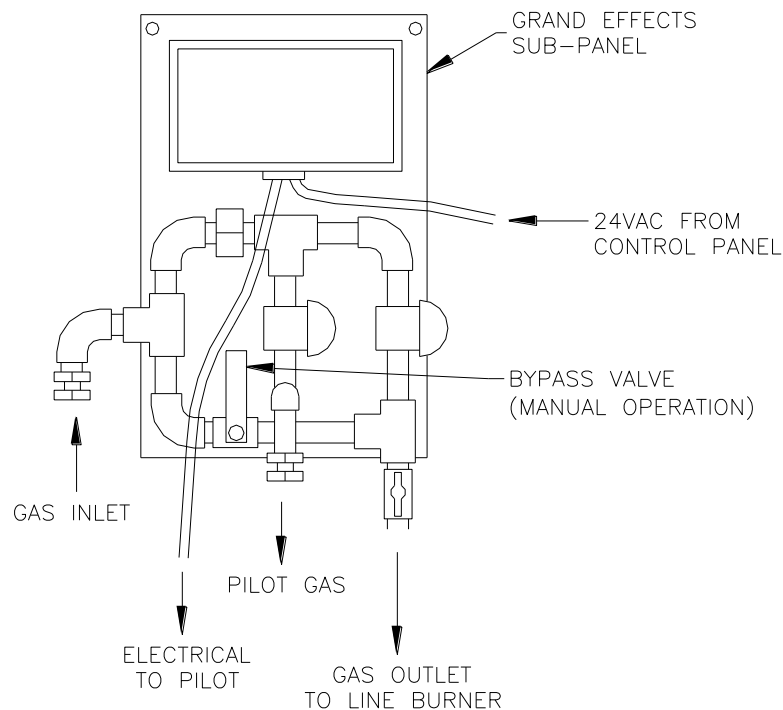


Fig. 9

8.0 Operation (MANUAL OPERATION)

In the event that the automation is not working, the burner can operate in a Manual mode of operation.

For your safety:

- 1 If you smell gas, shut off Gas Valve immediately.
- 2 Extinguish any open flame.
- 3 If odor continues, immediately call your gas supplier.
- 4 Do not store or use gasoline or other flammable vapors and / or liquids in the vicinity of this appliance.
- 5 Do not leave flame on while unsupervised.
- 6 Do not operate in windy or rainy conditions. If this is done, unit will cycle on and off automatically.
- 7 Unit should be operated only by a responsible adult.
- 8 When in use, an open flame is present, therefore, use with extreme care and at your own risk.
- 9 Before any inspection of the unit, always turn off power and gas supply at the Control Panel.
- 10 If you experience problems with this unit, call Grand Effects or a licensed heating professional. All work on this unit shall be performed by a licensed heating professional.

Caution! Before you turn on the Grand Effects System, make sure that it is clear of people, animals or any objects that are combustible.

Operating Instructions:

To turn unit "On":

- 1 Open Manual Bypass Valve on SubPanel to the "On" position.
- 2 In safe manner, light burner with approved lighting device.

To turn unit "Off":

2. Close Manual Bypass Valve on SubPanel to the "Off" position.

8.0

Spare Parts

Pilot Assembly
SubPanel
Ignition Module

Linear Insert Burner Assy.

Main Burner Does Not

Light

(No Spark)

- 1) Remove rock/glass away from pilot area (Look for small pieces obstructing pilot)
- 2) If still no spark, confirm that you have 24vac out of Panel and at Burner (measure voltage on terminals X1,X2)
- 3) If you have voltage going out to Burner, but no spark -Replace Control Module (Look for excess heat on module)
- 4) If you have no voltage out of Panel, reset GFI Circuit Breaker and reset button on transformer, confirm 110v going into panel on terminals L, N
- 5) If you have 110 V on L, N, but still no 24v output, replace transformer

Spark (No Pilot)

- 1) Remove rock/glass away from pilot area (Look for small pieces obstructing pilot)
- 2) Confirm if gas is coming out of pilot, you can hear it. (use BBQ Lighter to determine if gas is coming out of pilot)
- 3) If no pilot gas, check that gas is turned on.
- 4) Pilot orifice may be plugged. Replace pilot assembly.
- 5) If still no gas, pilot valve may not be opening. Turn gas off and confirm if Pilot Solenoid is energizing
- 6) If not energizing-replace module (if it is energizing pilot valve may have contamination lodged in it)

Burner Goes ON/OFF

- 1) Is it going off because of wind? If so, how windy-slight breeze-gusty?
- 2) Remove rock/glass away from pilot area (Does it get better?)
- 3) Remove all Rock/Glass from Burner Assy. (Does Problem go away?)
- 5) Is main flame adjusted to low? (If Burner is adjusted to low, pilot will be to small and unstable)
- 6) If burner shuts off after a 30-4min period and then goes off and does not come back on (Replace Control Module)

Pilot comes on but
no main burner

- 1) Confirm that gas valve on SubPanel (red handled ball valve) is open
- 2) If possible confirm that main gas solenoid is energizing, if not energizing replace Control Module)
- 3) Main Burner Solenoid may have to be replaced if buzzing

Main Burner or Pilot does
not Shutoff

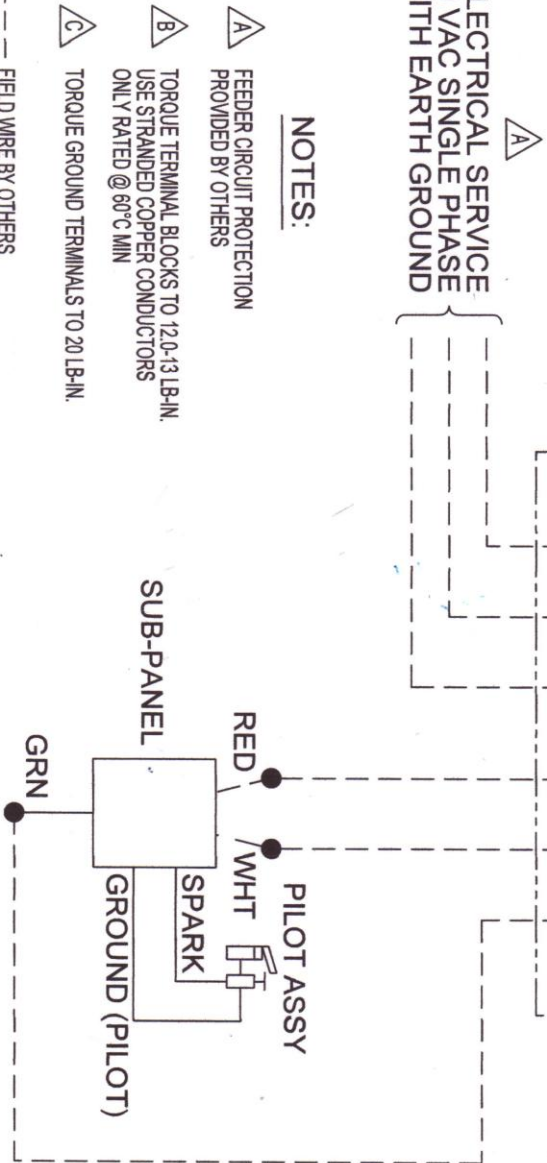
- 1) Remove Solenoid Coil and clean inside of solenoid (looking for contaminants)

LB-1

LEGEND

- L = 120 VAC LINE
- N = 120 VAC NEUTRAL
- GND = EARTH GROUND
- X1 = 24 VAC HOT
- X2 = 24 VAC COMMON

**ELECTRICAL SERVICE
120 VAC SINGLE PHASE
WITH EARTH GROUND**

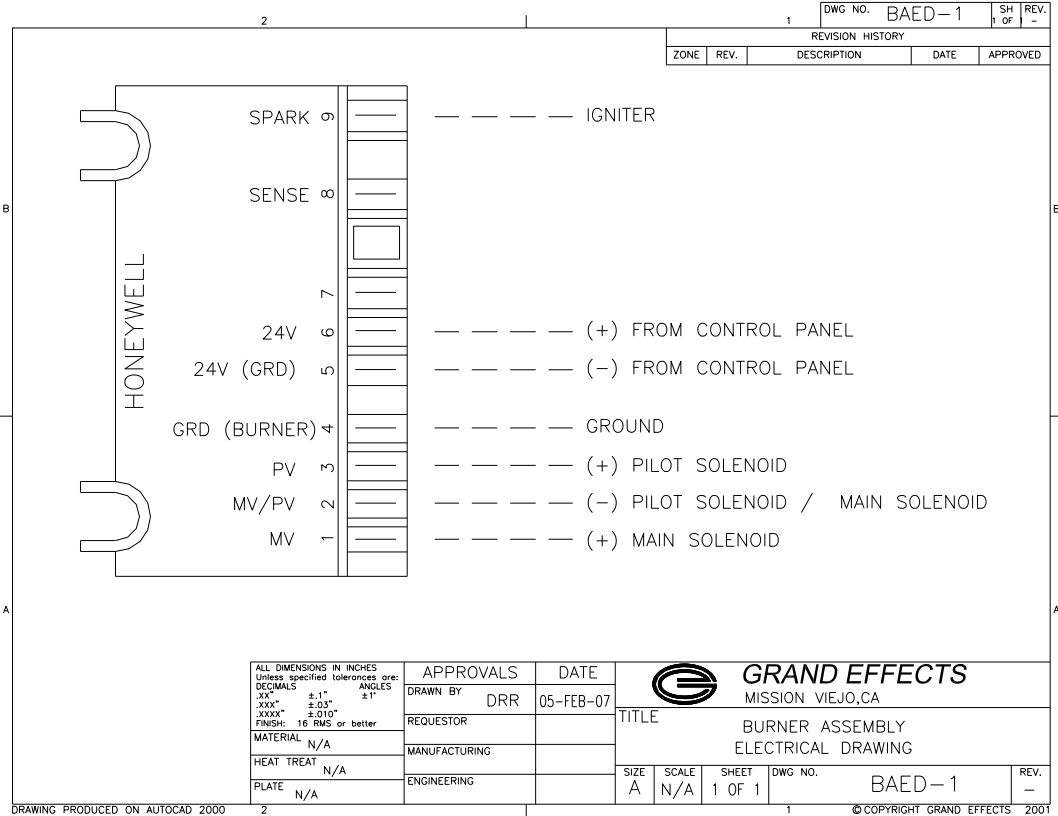


NOTES:

- A** FEEDER CIRCUIT PROTECTION PROVIDED BY OTHERS
 - B** TORQUE TERMINAL BLOCKS TO 12.0-13 LB-IN. USE STRANDED COPPER CONDUCTORS ONLY RATED @ 60°C MIN
 - C** TORQUE GROUND TERMINALS TO 20 LB-IN.
- FIELD WIRE BY OTHERS
- THIS PANEL ENCLOSURE IS RATED NEMA 3R. TO PRESERVE RATING USE NEMA 3R CONDUIT ENTRY HUBS

TERMINAL STRIP IN GRAND EFFECTS CONTROL PANEL

<p>TOTAL CONTROL a Division of RSD</p> <p>2021 Albion Drive Lake Forest, CA 92551 949-963-7178 949-963-4759 Fax</p>	<p>Project: GFCI POWER PANEL WITH 24 VAC OUTPUT</p>	<p>Contractor: GRAND EFFECTS MISSION VIEJO, CA</p>						
<p>Revisions</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Drawn by: LB-1 Checked by: SC Approved by: LD Date: 06-11-20</p>	Rev	Date	Change				<p>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH SHALL NOT BE REPRODUCED, TRANSFERRED TO OTHER DOCUMENTS, DISCLOSED TO OTHERS USED FOR MANUFACTURING OR ANY OTHER PURPOSES WITHOUT PRIOR WRITTEN PERMISSION FROM RSD/TOTAL CONTROL.</p>	
Rev	Date	Change						



ALL DIMENSIONS IN INCHES
 Unless specified tolerances are:
 DECIMALS ±.1" ANGLES ±1°
 .XX ±.1" .XX ±1°
 .XXX" ±.03" .XXX" ±1°
 .XXXX" ±.010" .XXXX" ±1°
 FINISH: 16 RMS or better

APPROVALS	DATE
DRAWN BY DRR	05-FEB-07
REQUESTOR	
MANUFACTURING	
ENGINEERING	

	GRAND EFFECTS	
	MISSION VIEJO, CA	
TITLE		BURNER ASSEMBLY ELECTRICAL DRAWING
SIZE	SCALE	
A	N/A	SHEET 1 OF 1
DWG NO. BAED-1		REV. -

Grand Effects

1 year Limited Residential Warranty/6mo Commercial

Grand Effects will replace, at its expense, any unit, which in normal use, has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to Grand Effects with proof of product within one year and provides Grand Effects with reasonable opportunity to verify the alleged defect by inspection. Grand Effects will not be responsible for any asserted defect, which has resulted from misuse, abuse, repair or alteration. Under no circumstances will Grand Effects be liable for incidental or consequential damage resulting from defective products. This warranty is Grand Effects' sole warranty and sets forth the customer's exclusive remedy, with respect to defective products, all other warranties, expressed or implied, whether of merchantability, fitness for purpose or otherwise, are expressly disclaimed by Grand Effects. Grand Effects is not responsible for any injury or mishap related to misuse, abuse or lack of judgment choosing fire display locations.



Contact us at:

GRAND EFFECTS

18 Technology Dr. #122

Irvine, CA 92618

Office (949) 697-5270

Fax (949) 625-8027

e-mail: info@grandeffectsinc.com