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Instructions



Gas Fireplace with Masonry Firebox

Models GBVS 39/44/49
Equipped with *Safety Pilot System

⚠ WARNING:

If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

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

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone and follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION OF THIS FIREPLACE.

Logs and burner must be permanently installed in and are only for use in this fireplace. This fireplace must be connected to a working flue meeting the requirements of the ANSI Z21.50 standard.

Solid-fuels shall not be burned in this fireplace.

This appliance must be vented vertically through the roof. This appliance is not for installation in manufactured or mobile homes. The installation, including provisions for combustion, ventilation air, and required minimum permanent vent opening, must conform with the National Fuel Gas Code (ANSI Z223.1/NFPA 54) and applicable local building codes. **This gas fireplace is designed to burn with yellow flames; thus adequate ventilation is absolutely necessary.**

⚠ WARNING:

This gas appliance must not be connected to a chimney fuel servicing a solid fuel burning appliance.

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

Installer: Leave these instructions with the consumer.

Consumer: Retain for future reference.



We recommend that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

*Sold Separately



Report No. 08-154



ICC Evaluation Services
Report No. 2401




rev 5-31-2013

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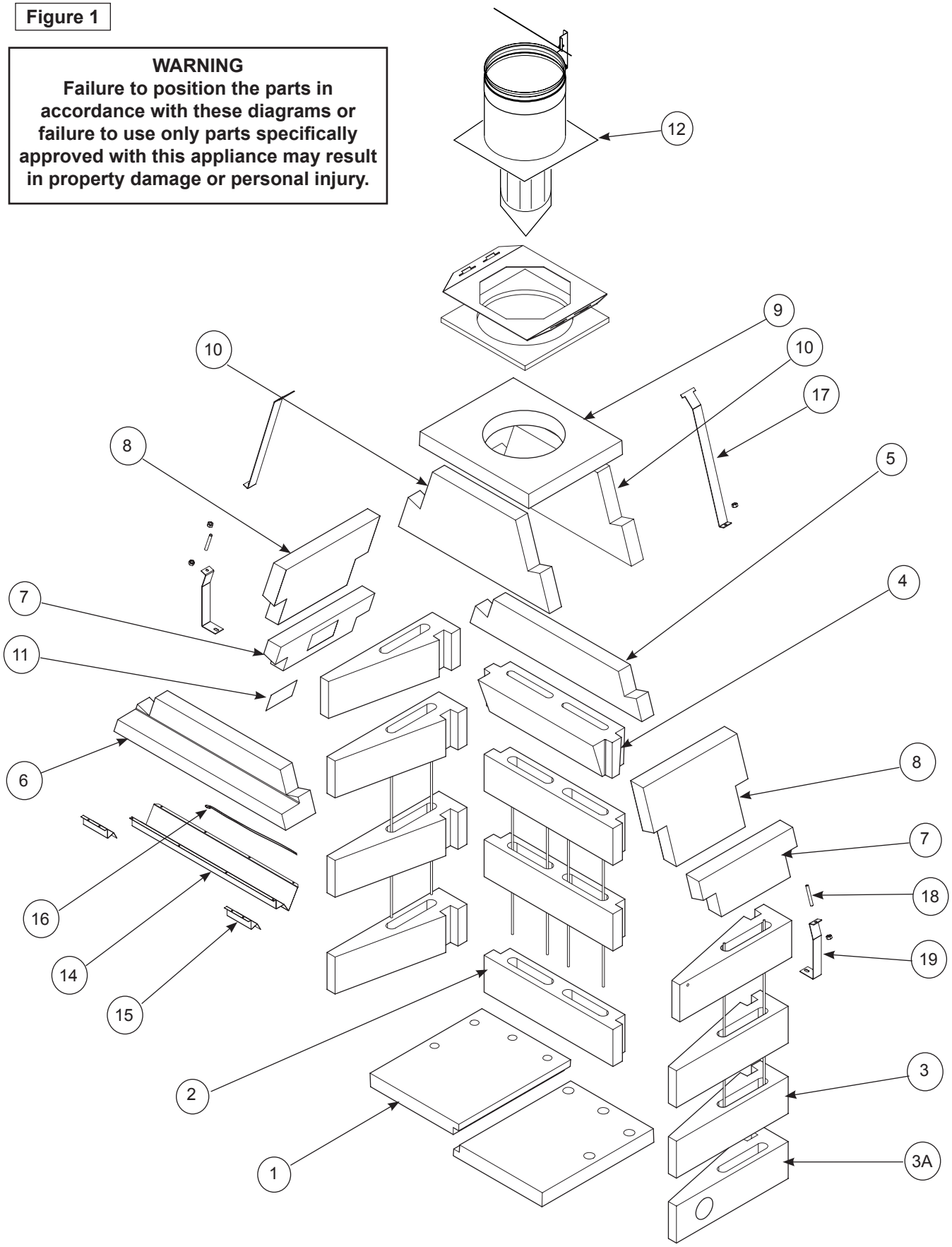
Your fireplace must have a rating plate like the sample shown below and should be located inside the lower dome side of your fireplace. Model Number, Date of Manufacture and Serial Number should be stamped on the plate where indicated.

 BURNTech FIREPLACE SOLUTIONS 6520 Platt Ave. #577 West Hills, CA 91307	DO NOT REMOVE THIS LABEL See Burntech Installation & Operating Instructions for this model. Contact local building officials about restrictions and installation specifications in your area.	 Report No. 08-154 US	 ICC Evaluation Services Report No. 2401
MFG. DATE: <input style="width: 50px;" type="text"/> SERIAL No. <input style="width: 100px;" type="text"/>			
MODEL No.: <input type="checkbox"/> GBVS39 <input type="checkbox"/> GBVS44 <input type="checkbox"/> GBVS49		GAS TYPE: <input type="checkbox"/> NG <input type="checkbox"/> LP	
<p>WARNING: THIS FIREPLACE HAS BEEN TESTED FOR USE ONLY WITH APPROVED GLASS DOORS. TO REDUCE THE RISK OF FIRE OR INJURY, CONSULT OWNER'S MANUAL.</p> <p>WARNING: THIS FIREPLACE IS DESIGNED FOR USE ONLY WITH THE ANSI Z21.50 DECORATIVE GAS LOGS AND BURNER TESTED AND APPROVED FOR THIS FIREPLACE. Consult instructions included with this firebox for further information.</p>	<p>WARNING: THIS FIREPLACE IS NOT INTENDED FOR BURNING SOLID FUELS.</p>	<p>PLACEMENT CLEARANCES TO COMBUSTIBLES:</p> <p>TO REAR.....0"</p> <p>TO TOP.....1" (25.4 mm)</p> <p>TO SIDE WALLS.....48" (1219 mm)</p> <p>TO FRONT WALLS.....8" (203 mm)</p> <p>CEILING.....24" (610 mm)</p> <p>MANTLE.....3" (76 mm)</p> <p>INSULATION FROM FIREBOX.....0"</p>	
<p>IMPORTANT: Refer to pipe manufacturer's instructions.</p>			
<p>THIS APPLIANCE NEEDS FRESH AIR FOR SAFE OPERATION AND MUST BE INSTALLED SO THERE ARE PROVISIONS FOR ADEQUATE COMBUSTION AND VENTILATION AIR.</p>			
<p>This appliance is not for installation in manufactured or mobile homes.</p>			
<p>The installation, including provisions for combustion, ventilation air, and required minimum permanent vent opening, must conform with the National Fuel Gas Code (ANSI Z223.1/NFPA 54) and applicable local building codes.</p>			
<p>WARNING: This gas appliance must not be connected to a chimney fuel servicing a solid fuel burning appliance.</p>			

Fireplace Parts List

Figure 1

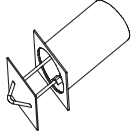
WARNING
Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.



See Page 8 and 9 for framing anchoring components.

GBVS39/44/49 Fireplace Parts List

**Optional Outside Ø4"
Combustion Air Kit
Model No.: BFP4-AK**

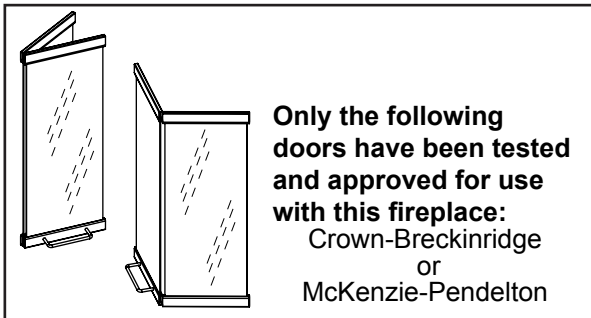


(Ø4" Ducting not included)



**FBK (39/ 44/ 49) SHBL- Herringbone
FBK (39/ 44/ 49) FRBL- Running Bond**

Refractory Firebrick Liners
(Herringbone Pattern shown, also available
in Running Bond - see Pg.27)



**Only the following
doors have been tested
and approved for use
with this fireplace:**
Crown-Breckinridge
or
McKenzie-Pendelton

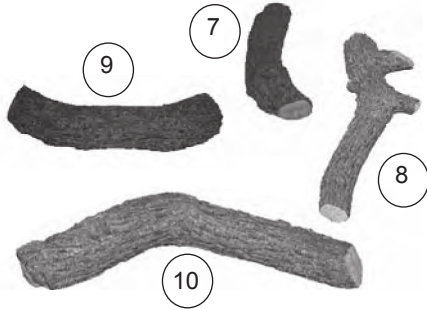
ITEM	P/N	DESCRIPTION	QTY
1	TFS39-1 TFS44-1 TFS49-1	HEARTH (Left or Right)	2
2	TFS39-2 TFS44-2 TFS49-2	REAR WALL	3
3	TFS39-3 TFS44-3 TFS49-3	SIDE WALL	7
3A	TFS39-3A TFS44-3A TFS49-3A	SIDE WALL with 4" opening for Air Kit	1
4	TFS39-4 TFS44-4 TFS49-4	SMOKE SHELF (Downdraft Diverter)	1
5	TFS39-5 TFS44-5 TFS49-5	DOME REAR - LOWER	1
6	TFS39-6 TFS44-6 TFS49-6	LINTEL	1
7	TFS39-7 TFS44-7 TFS49-7	DOME SIDE - LOWER	2
8	TFS39-8 TFS44-8 TFS49-8	DOME SIDE - UPPER	2
9	GBVS39-9 GBVS44-9 GBVS49-9	DOME TOP Ø10"	1
10	TFS39-10 TFS44-10 TFS49-10	DOME FRONT/REAR	2
11	GBVS-186-1	RATING PLATE	1
12	TFS-DD*	10" DRAFT HOOD	1
14	TFS-211	SMOKE DIVERTER	1
15	TFS-212	SMOKE DIVERTER EDGE PIECE	2
16	TFS-213	SPILL SENSOR SWITCH	1
17	<i>INCLUDED</i>	#4 REBAR (Ø1/2") x 28"	8

* ITEMS NOTED ARE SOLD SEPARATELY.

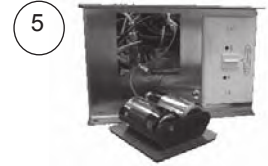
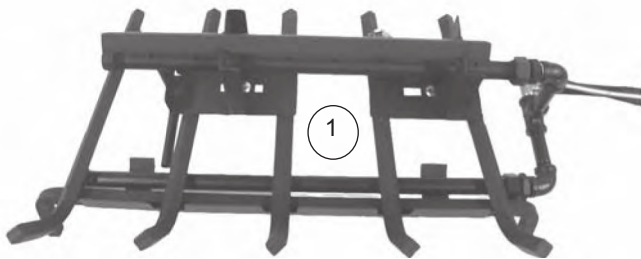
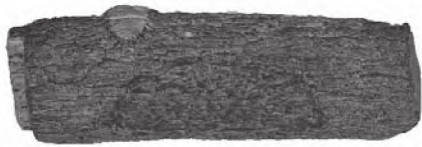
ITEMS INDICATED AS "NOT SUPPLIED" CAN BE OBTAINED FROM YOUR LOCAL HARDWARE STORE.

*BURNTECH Supplied Burner & Logs Parts List

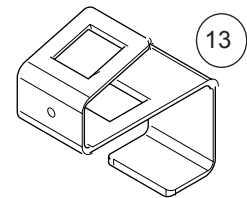
Before beginning installation, be sure the burner system is complete by comparing its contents with this Parts List. Parts may differ depending upon the size of the set purchased. Be sure you know the model number and size of your set when ordering replacement or optional parts and accessories. Burner, Log Kit and remote are sold seperately.



LML-24 shown.



Receiver pre-assembled into control box.



WARNING: THIS FIREPLACE IS DESIGNED FOR USE ONLY WITH THE ANSI Z21.50 DECORATIVE GAS LOGS AND BURNER TESTED AND APPROVED FOR THIS FIREPLACE.
Any change or alteration in burners or log sets must be approved by Burntech in writing or warranty will be null and void.
BTU's can never exceed more than 65,000 on Models GBVS 39 and 44 and 80,000 btu's on Model GBVS 49.
Unapproved changes or alterations could result in a fire or explosion resulting in property damage, personal injury or death.

Diagrams shown are not to scale.

ITEM	P/N	DESCRIPTION	QTY
1	GMLB-39/44-01(P) GMLB-49-01(P)	Pilot, Burner assembly	1
2	RR-1A	Remote trans./recvr. w/ batt.	1
3	CK-5-18HC	Source connector kit	1
4	CK-5-24HC	Burner connector kit	1
5	CE-01	Valve/Control box w/ batt.	1
6	OCC-10	Lava Rock, 10 lb. bag (4)	1
7	LML-15T	Top log 15"	1
8	LML-17T	Top log 17"	1
9	LML-18T	Top log 18"	1
10	LML-20T	Top log 20"	1
11	LML-24BR LML-30BR	Rear bottom log 24" Rear bottom log 30"	1
12	LML-24BF LML-30BF	Front bottom log 24" Front bottom log 30"	1
13	TFS-214	Burner Grate Brackets (2)	2

Contact BURNTECH for replacement parts and accessories as listed in these parts lists.

*SOLD SEPERATELY

Product Overview

Introduction

Thank you for choosing Burntech® Fireplace Solutions. Rest assured our products have been tested for safety and durability for many years when properly installed by following this manual completely.

Product Overview

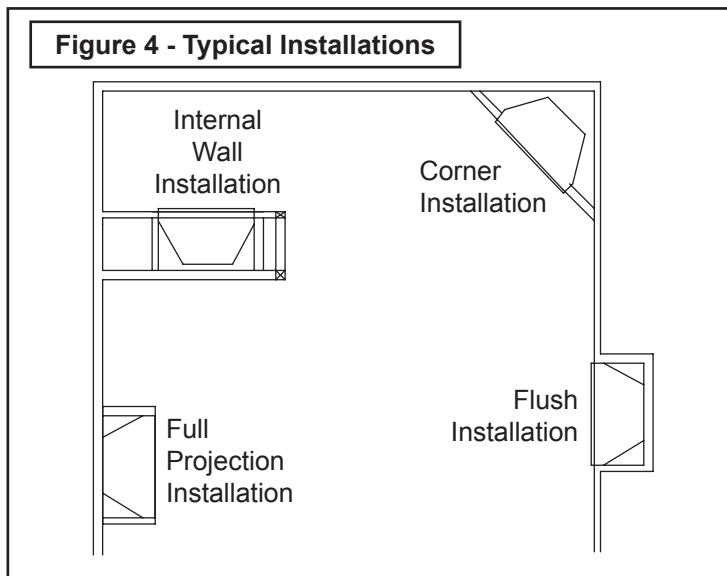
Burntech® Fireplaces are designed as factory-built blocks to be assembled on-site. These fireplaces may be installed on either combustible or non-combustible floors. In order to function, the system requires a 10" B-vent chimney.

The main components of your Burntech® Fireplace are:

- Burntech® Firebox and Smoke Dome
- Gas burner, logs and control system (sold separately)
- B-vent Chimney Pipe (Sold Separately)

The main categories of the installation of your Burntech® Fireplace are:

- Clearance to combustibles
- Familiarity with all the components for the installation
- Foundation strength of your Burntech® fireplace
- Chimney system measurements
- Set up and use of the gas burner system.
- Choice of materials and craftsmanship in fireplace and hearth finishing.



Note that each of these topics will be covered in detail and that the installer is expected to understand each phase completely before going on to subsequent instructions.

Attention: Be advised that all the illustrations in this manual are for general reference only. Do not scale drawings. Actual design elements will vary from case to case. Pay attention to specified minimum clearances to combustibles.

WARNING! Under no circumstances should you allow children to remain unattended while a fire is burning in the fireplace! Be sure to keep all objects – furniture, drapes, rugs, etc. at least 48" (48 inches) away from the opening of the fireplace!

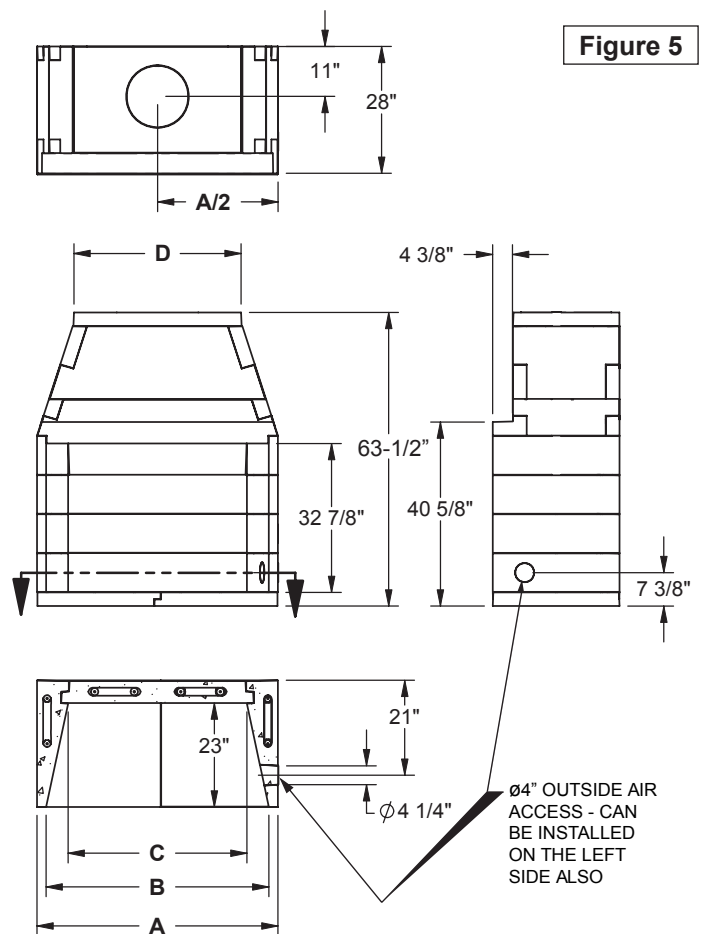
Attention: You may need a residential building permit to install a Burntech® Fireplace. Consult local jurisdictions before you get started!

The Burntech® gas fireplace is not designed to serve as a primary heat source, rather, the fireplace was expressly created as a supplemental source of heat. This unit is designed for use with the provided gas burner and approved logs only.

Testing and listing for the Burntech® gas fireplace has been undertaken by PFS Test Laboratories, Inc. to ANSI Z21.50.

Under no circumstances should the Burntech® gas fireplace be considered for other than in-residence buildings of conventional construction.

These components make up the Burntech® gas fireplace and in the following pages, you will learn how they work together to create an exceptional unit that will give years of service and pleasure!



Overall Dimensions Burntech® Fireplaces

Model	A	B	C	D
GBVS39	43"	39"	30-1/4"	27-3/4"
GBVS44	48"	44"	35-1/4"	32-3/4"
GBVS49	53"	49"	40-1/4"	37-3/4"

Required Gas Pressure

The minimum inlet gas supply pressure for the purpose of input adjustment is 5" of water column (w.c.) for natural gas.

The maximum inlet gas supply pressure is 10.5" w.c. for natural gas. The minimum inlet gas supply pressure for the purpose of input adjustment is 11" of water column (w.c.) for propane gas. The maximum inlet gas supply pressure is 13" w.c. for propane gas.

Testing the Gas Supply System

The gas fireplace and its required individual shut-off valve must be disconnected from the gas supply piping system while performing any tests of the piping system at pressures in excess of 1/2 psig.

The gas fireplace must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig.

This is accomplished by closing the gas supply line valve required by NFPA 54.

A fireplace screen must be replaced after service and be in place when the appliance is in operation and, unless other provisions are provided, the screen shall have an opening for introduction of combustion air.

When glass fireplace doors are used, operate the gas fireplace with the doors open. Use only doors rated for this appliance.

Important

To comply with building code acceptances, and for safe operation and proper performance of this fireplace, use ONLY Burntech® parts and accessories.

Use of other controls, parts, and accessories which are not designed for use with Burntech® gas fireplaces is prohibited and will void all warranties, certifications, listings, and building code approvals, and may cause property damage, personal injury, or loss of life.

The burner included with this gas fireplace is non-convertible and only meant to be used with the gas listed on the rating plate.

GUIDELINES FOR USE:

All current and future users of Burntech® Fireplaces are charged with the responsibility for full knowledge of the information contained within this manual which includes:

- Strict requirements for assembly.
- Detailed instructions for installation.
- Cautionary guidelines for use.
- On-going maintenance instructions.

It is the responsibility of the distributor, subcontractor and/or the general contractor – whoever shoulders the liability for installation of this product – to see to it that the work is in complete compliance with the guidelines and instructions in this manual.

Note that the general contractor is the party accountable for seeing that adequate clearances are provided from all firebox surfaces per specifications in this manual.

DO NOT USE A FIREPLACE INSERT OR OTHER PRODUCTS NOT SPECIFIED FOR USE WITH THIS FIREPLACE.

The Burntech® GBVS Fireplace is Designed for Use Only with:

- Burntech approved burner and log system
- Plumbed LPG or Natural Gas.

DO NOT USE OR STORE GASOLINE OR OTHER FLAMMABLE LIQUIDS OR GASES IN OR NEAR THE FIREPLACE!

ATTENTION: A fire or an explosion could occur causing property damage, injury or loss of life if you do not follow the information in this manual!

Clearance to Combustibles

The distance to be maintained from the surfaces of the fireplace to combustibles must be observed. Below is a list of the most common combustible materials to name a few:

Drywall	Wood flooring	Plywood
Sub-flooring	Wood Framing	Particle board
Mill board	Plywood paneling	

Maintain the following minimum clearances:

Unit front, sides, rear	0"	0
Combustible floor	0"	0
Sheathing or trim to opening sides	8"	(203 mm)
Combustible sheathing above opening top	8"	(203 mm)
Mantel above opening	12"	(305 mm)
Opening to side wall	20"	(508 mm)
Insulation from firebox	0"	0

Due to high temperatures, never install this fireplace in a recreational vehicle, in high traffic areas, drafty areas, or where curtains, furniture, clothing, or other flammable objects are less than 36" from the front or side and 42" from the top of the fireplace.

CAUTION: This gas fireplace attains high temperatures. Keep children and adults away from hot surfaces to avoid ignition of clothing and/or burns. Even after the fireplace is shutdown it will remain hot for a time afterward. Allow the surface to cool before touching it.

Carefully supervise young children when they are in the room with the fireplace.

All fireplace openings for both combustion air and exhaust must remain open and unobstructed at all times when the fireplace is in operation.

The Burntech® fireplace has been designed, tested and approved for zero clearance to combustible floors.

Be certain that the Burntech® fireplace is installed with the finished fire brick floor of the fireplace so that it is at least 4-1/2" (four and a half inches) above the combustible floor system.

Warning to the structural engineer and/or building contractor: It is your responsibility to be certain that the fireplace can be properly supported by the combustible floor system on which the fireplace will rest. Be advised that this engineering equation will be in addition to any live or dead weights that the floor has to carry.

Burntech® Fireplace & Chimney Systems

Before Getting Started...

Even if you consider yourself an expert in the field of fireplace installation, we at Burntech® caution you to take the time to totally familiarize yourself with the instructions to follow.

We can assure you that there will be information that will make the installation go smoother and, above all, safer, for everyone concerned. At the least, reading these procedures will save you time and, at the most, it will prevent any malfunction that could result in property damage or serious injury.

Do not start the installation until you have checked out all the local, regional, state and national rulings, laws and codes as they apply to fireplaces and fireplace installations. Every community is different so do not assume that because you know the requirements for one locality, it will be the same in the next. Avoid bureaucratic hassles and do your homework **WELL BEFORE** you start your project!

- 1) The Burntech® gas fireplace is designed to be installed with a B-vent metal chimney system, UL 103 chimney. Such chimney systems are acceptable where any traditional masonry fireplace has been specified. Note that the chimney system must always vent to the outside of the building.
- 2) This Burntech® fireplace is intended as a supplemental heat source only. It is not intended as a primary heat source.
- 3) It is the responsibility of the contractor installer (not the manufacturer) to ensure that adequate combustion air is provided for proper function of this fireplace. Fireplaces take up a large volume of replacement air from outside the house and if the house is of airtight construction, smoke spillage may occur if proper draft is not achieved.
- 4) There are many conditions beyond a manufacturer's control when it comes to the operation of the fireplace. The manufacturer cannot be responsible for "smoke free" operation, nor can the manufacturer take on the responsibility for problems with surrounding construction; chimneys that have not been built at the right heights; system drafts caused by faulty mechanical systems; adverse weather conditions or any other inclement environmental situations over which the manufacturer has no control.
- 5) Inspect all fireplace & chimney components for evidence of damage prior to starting installation. Consult your local distributor for replacement parts if necessary.
- 6) Under no circumstances should you make any adjustments or modifications to the chimney system during the installation procedure. If you do, you are not only liable for negating the warranty, but you could very well cause a serious malfunction of the fireplace. You must follow these chimney instructions.

Chimney System Heights

When installed, the maximum overall height of the Fireplace is 40'-0" (forty feet). The minimum installed height of the completed fireplace is 14' 0" (fourteen feet), given that the chimney is straight. If the chimney includes one or more offset sections, the measurement is 17' 0" (seventeen feet).

Supporting Floor Systems

It is the ultimate responsibility of the installer to ensure that proper concrete slab supports are used.

WARNING to the licensed design professional and/or building contractor: It is your responsibility to be certain that the Burntech® can be properly supported by the combustible floor system on which the fireplace will rest.

For fireplace support foundations installed on concrete refer to Appendix I and II (pages 31 & 32) for specific instructions.

Rebar locations

Lay-out the position of the fireplace and drill holes where the rebar will be located. Secure the #3 rebar 4 inches into the concrete foundation with ITW Epoxy or Simpson Epoxy. Follow manufacturer's instructions for installation of rebar into slab.

Wood Floor

Anchorage of fireplace to wood floor construction is required. Refer to **Figure 9** for anchorage dimensions. Four anchors are required to attach to the sub-flooring framing.

Crawl Space or Upper Floor:

For installation of firebox over combustible crawl spaces or upper floors, anchorage of the firebox is required. Illustrations of examples of possible anchorage methods are shown in Figures 6 thru 8 depending upon the type of floor framing. Final method of anchorage is to be determined by licensed design professional.

For conventional framing, where the floor joists are parallel with the sides of the firebox, the addition of floor joists to align with the anchor brackets allows the brackets to be directly connected to the floor joists.

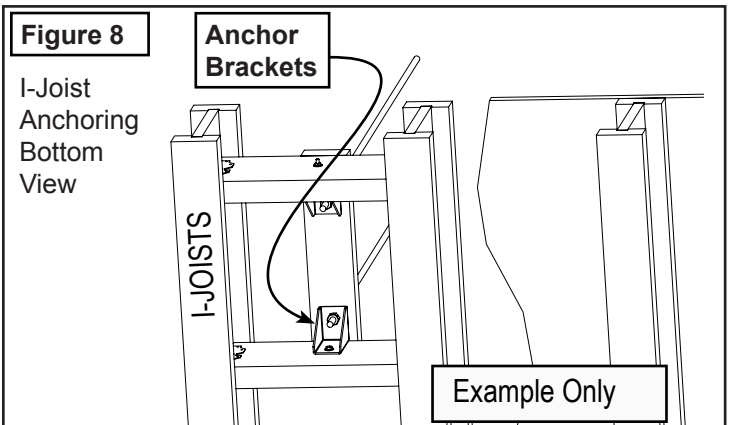
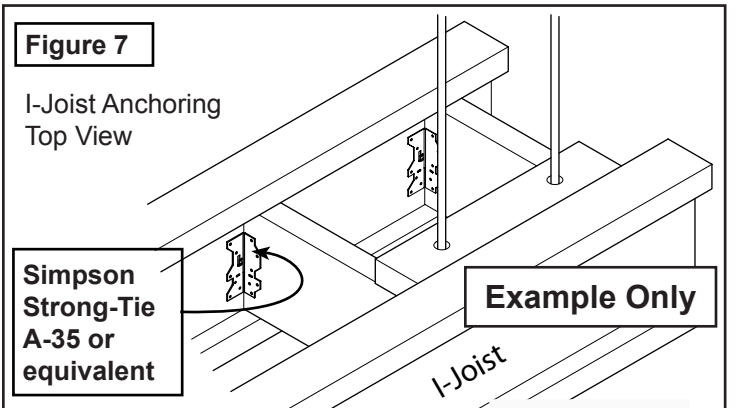
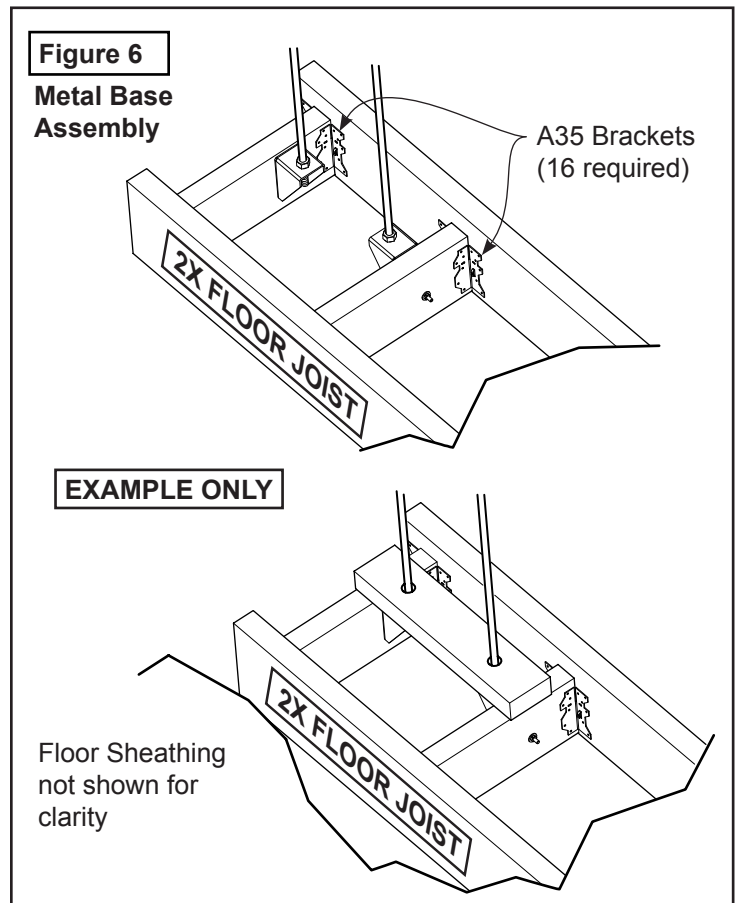
Note that additional floor joists may be required to support the weight of the firebox and chimney. Where the floor joists run parallel to the front of the firebox, anchorage can be accomplished in like manner as shown in Figure 6 using blocking between the floor joist.

For floors supported by I-Joists, the method of anchorage is illustrated in Figures 7 and 8. Figure 11 illustrates the general arrangement of anchorage to floor framing.

It is important to take into consideration that the load for the Burntech® Fireplace must be considered as additional dead load that will have to be supported by the floor framing. Additional floor joists or I-joists may be required as determined by the licensed design professional.

The dead weights for the fireplace are noted in Table I. It is the task and responsibility of the general contractor/installer to see that the proper reinforcement for weight loads are made by a licensed design professional prior to the fireplace installation.

As stated above, it is desirable to place additional framing for alignment of anchor rods. Refer to Figure 9 for anchor rod locations.



Burntech® Weight Determination

The following are dead load weight estimates for the Burntech® Fireplaces.

Fireplace Model	GBVS39	GBVS44	GBVS49
Fireplace Weight	1,194 lbs.	1,250 lbs.	1,359 lbs.
Mortar, Rebar & Ready Mix Concrete	350 lbs.	357 lbs.	364 lbs.
Firebrick Lining	333 lbs.	345 lbs.	356 lbs.
Draft Hood	17 lbs.	17 lbs.	17 lbs.
Floor Area	42" x 28" (8.12 ft ²)	48" x 28" (9.33 ft ²)	53" x 28" (10.30 ft ²)

Other Weight Considerations:

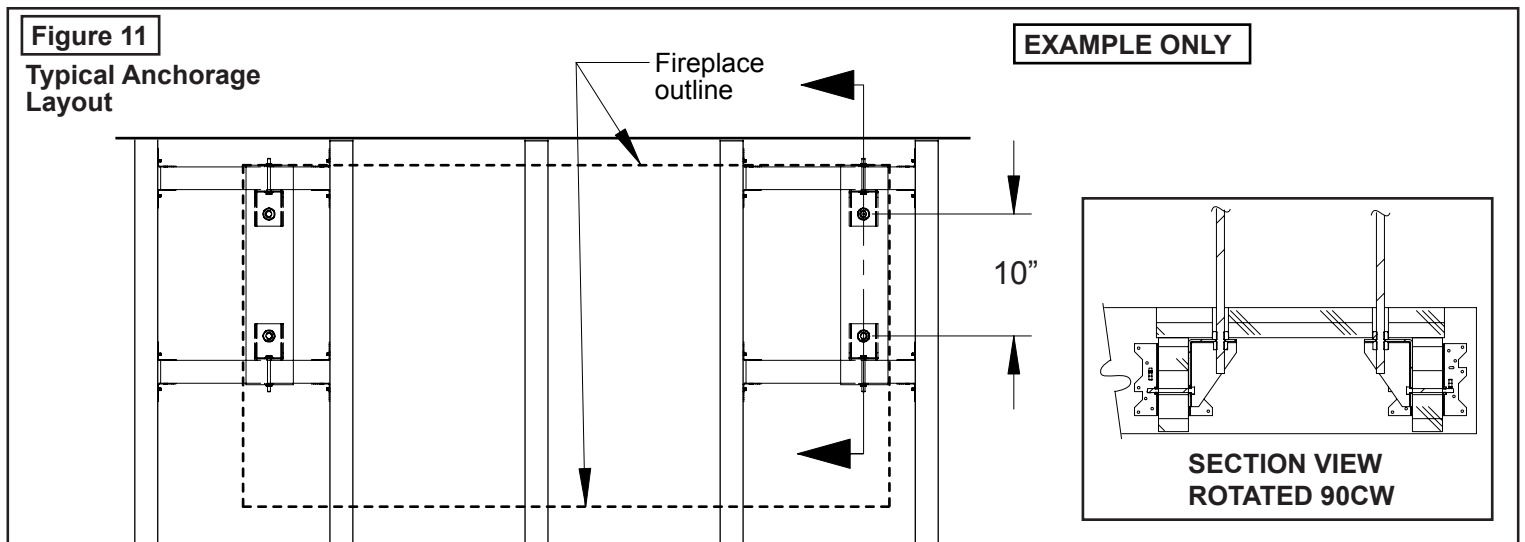
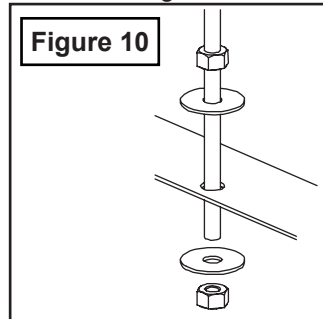
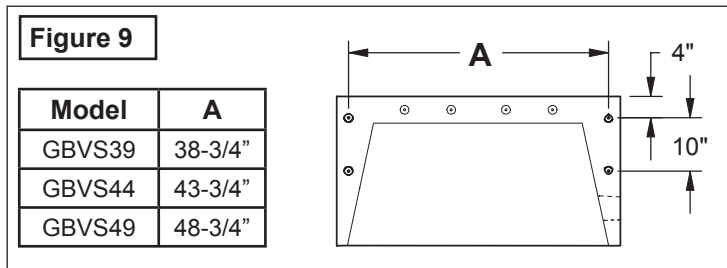
- 1) Fireplace finished facing (surround): This information needs to be obtained from the contractor.
- 2) Weight of metal flue: See chimney manufacturer's weight specifications. Some chimney systems can weigh up to 50 lbs per lineal foot.

Construction	L	S or W	D + L₁
Floor Members	1/360	---	1/240

¹ For wood structural members having a moisture content of less than 16 per cent at time of installation and used under dry conditions, the deflection resulting from L + 0.5D is permitted to be substituted for the deflection resulting from L + D.

Note that Burntech® cannot accept responsibility for structural floor support details. All drawings are presented as mere illustrations to indicate the presence of the underlying floor system. It is the responsibility of the general contractor/installer to consult with a local licensed design professional for guidance in building a proper floor support system.

ATTENTION: Figure that these totals for the dead loads are in addition to the actual live load as well as other dead load requirements for the specified site's proposed floor. Only the Burntech® weights are known. Other weights are estimates and are subject to material choices of the installer or owner.



What You Will Need

You will find that the Burntech® Fireplace is designed to be completely assembled on-site, consisting of interlocking precast parts. The parts of the fireplace are made of Burntech®'s incredibly strong blend of specialty cement and a light weight aggregate.

IMPORTANT! When applying mortar, it is imperative that the concrete blocks be maintained moist (not soaking) so they don't absorb the water out of the mortar and cause adhesion to fail. Frequently run a damp sponge to the parts before mortar is applied!

The installation of an anchor plate/damper is required but not supplied. You may purchase it from any chimney manufacturer or Burntech®. Also, an optional combustion air inlet BFP4-AK can be obtained from Burntech®.

Refractory Firebrick Liners also need to be installed. These should be a minimum of 1-1/8" (one and one-eighth inches) thick. The liner will be applied within the walls and hearth area of the firebox. These are available from Burntech®. See page 27.

Tools needed for installations:

- One 4' level
- Roto-hammer with 1/2" drill bit (needed for concrete slab install only)
- Drill motor with mixer blade (to mix Burntech® Mortar)
- Two empty 5 gallon buckets (to mix Burntech® Mortar)
- One wheelbarrow and shovel to mix concrete.
- Grout bag
- Triangular masonry trowel
- Rubber hammer
- Sponge and water bucket to wipe down and moisten parts prior to applying mortar.

Materials needed for concrete slab installations

GBVS39:

Six (6) pieces 3/8" rebar x 36" long (included with unit)

Six (6) pieces of rebar x 12" long (included with unit)

GBVS44/49:

Eight (8) pieces 3/8" rebar x 36" long (included with unit)

Eight (8) pieces of rebar x 12" long (included with unit)

ALL UNITS:

- Epoxy for securing rebar in footing / foundation.
- Three (3) - 90 lb. bags of Ready-Mix Concrete with 1/4" or smaller aggregate.

Materials needed for wood floor installations

GBVS39:

Six (6) pieces 3/8" rebar x 36" long (included with unit)

Six (6) ea. All-thread x 12" long (with nuts and washers)

GBVS-44/49:

Eight (8) pieces 3/8" rebar x 36" long (included with unit)

Eight (8) ea. All-thread x 12" long (with nuts and washers)

ALL UNITS:

Three (3) - 90 lb. bags of ready mix concrete with 1/4" or smaller aggregate.

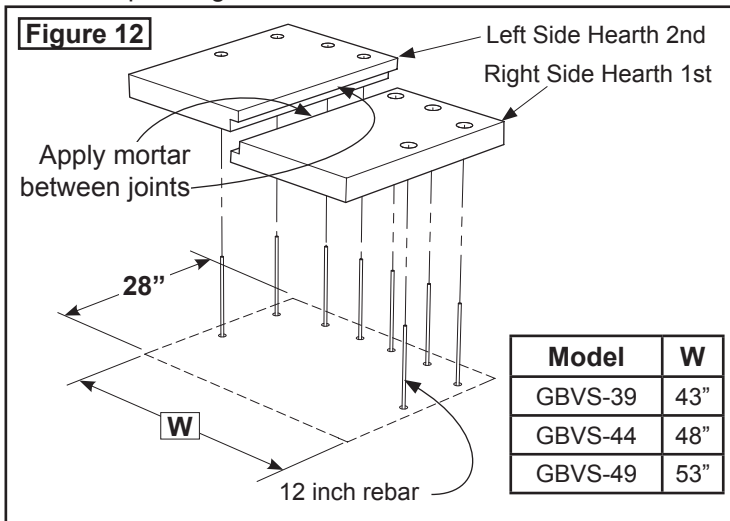
SURFACE CRACKS - The Burntech® fireplaces are manufactured using high quality materials. During the drying process, surface cracking may occur. These small cracks (under 1/16" will not affect the fireplace safety or performance). During the assembly process, fill surface cracks with thin-set mortar and brush when drying for a smooth surface finish.

Field Assembly Procedures

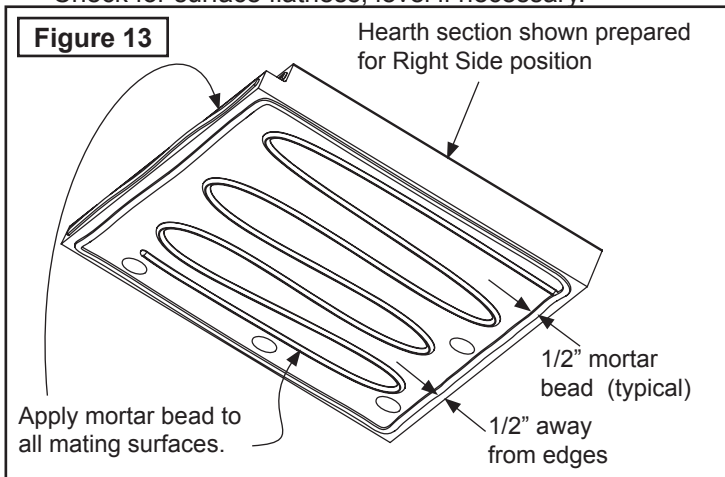
- a) Mixing the Burntech® mortar – The mortar comes premixed and should be dry. Be sure to use clean water and work it up into a mixture that is pasty but not lumpy. If it's too thin and the surfaces don't stay moist, the components will not adhere. Load the mixture into a standard grout bag.
- b) Apply about 1/2" (one-half inch) bead of mortar. The mortar bead should be approximately 1/2" (one-half inch) away from all edges. The mortar has a considerable amount of holding power so do not overload the components with too much mortar. Keep the components moist at all times!
- c) Some mortar will "ooze out" when placing components together, this is normal. Wipe excess away with a trowel. Do not cover component surfaces completely with mortar. Do not apply the mortar in thick bands even if the component you are working with is larger than the rest. You will want to apply "stripes" of mortar in these situations.
- d) Make sure components are level. It's extremely important that you pay careful attention to how you are assembling the Burntech® Fireplace since every component builds on the next. If you have to make any kind of an adjustment, do not try to do it "by loading an opening" with mortar, this will only result in a fireplace that will not be plumb or level. Use wood shims instead. **You will find these small wood shims supplied with the Burntech® Fireplace** and you can nudge them in between openings to achieve the precision you need in making component adjustments. Once you have removed any shims, you will want to cover any gaps that may have resulted with the mortar.

Fireplace Assembly Procedures

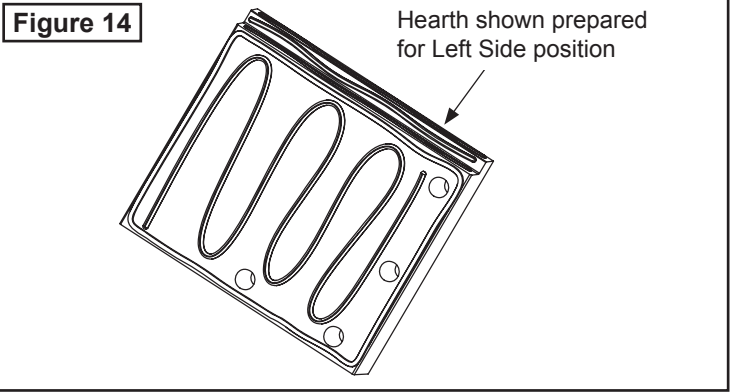
1. Place the Burntech® fireplace hearth on the floor where the fireplace is to be installed. For concrete slabs, supporting floor needs to be rated at ASTM 90.
2. Draw an outline of the hearth area based on the dimensions shown in **Figure 12**. Position Hearth slabs and mark rebar center locations. Drill 4 inches into concrete slab and secure the 8 pieces of 12 inch rebar with epoxy. For other than concrete slabs, draw an outline of the hearth area based on the dimensions in Figure 5 taking special consideration on the position of where the all-thread studs will be located in relation to the anchoring locations. All-thread rods should stick up through the holes on the hearth slabs.



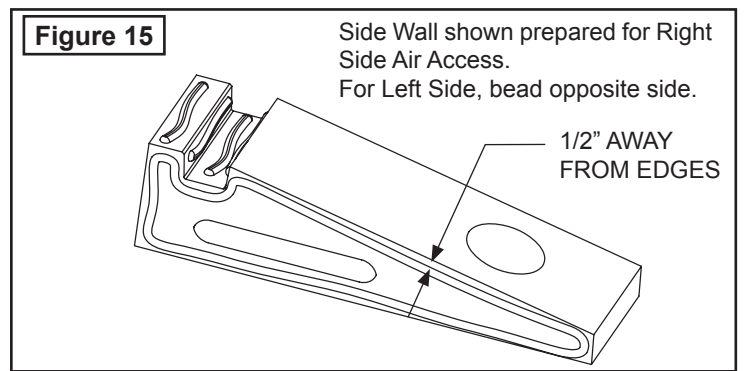
3. Mix a batch of mortar and prepare Right Side Hearth bottom surface to be bonded as shown in **Figure 13**.
4. Align Right Side Hearth to the outline created. The overall width should allow for an approximate gap of 1/8" between slabs for the additional mortar to unite the remaining slab. Check for surface flatness, level if necessary.



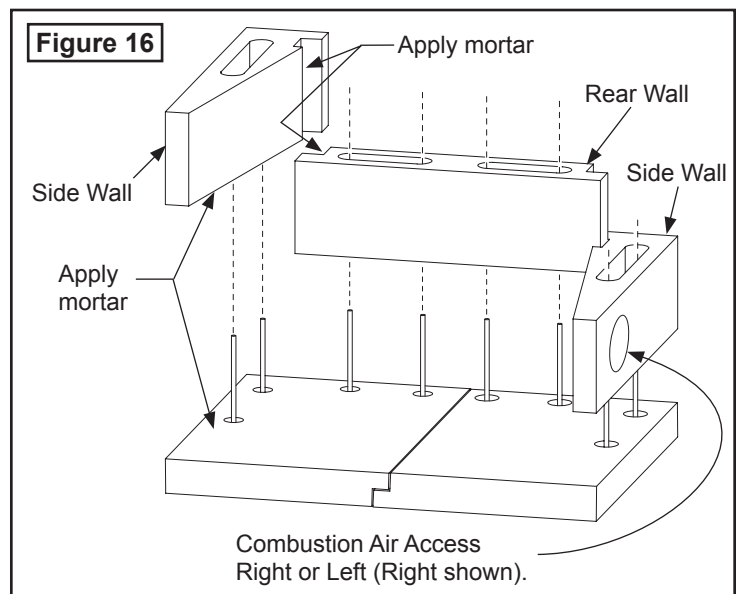
5. Apply mortar to the remaining Hearth except this time apply beading on surface to be facing floor as shown in **Figure 14**.



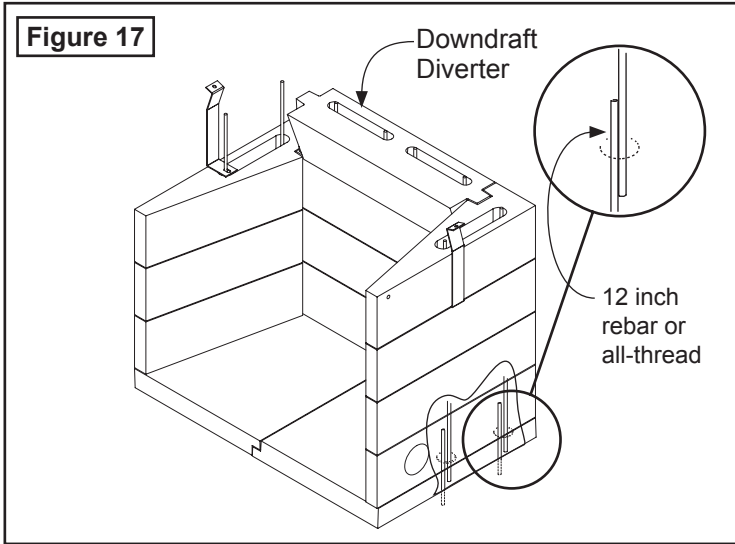
6. Before installing side walls, confirm placement of outside combustion air access (if required), this can be installed either side depending on which side is accessible to outside combustion air (all diagrams in this manual show the combustion air inlet hole on the right side). Prepare side wall and rear wall mating surfaces with the prepared mortar and begin assembly.



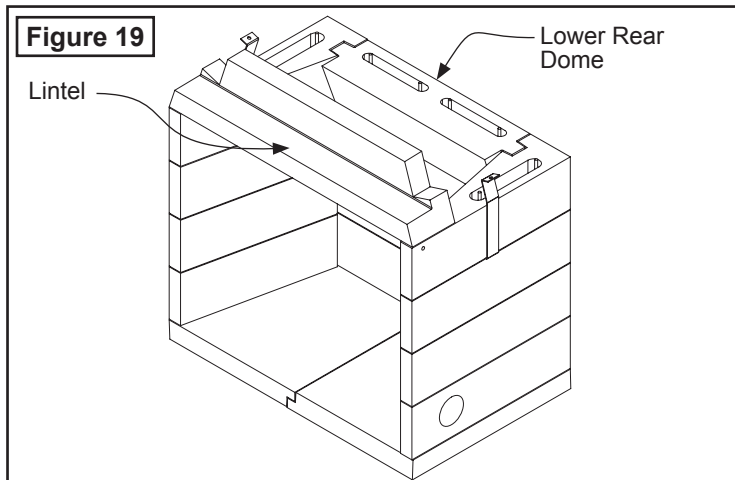
7. Keep the assembly of the next sections of the firebox side walls moving up, keeping components moist, mixing mortar as you need it and threading the mortar appropriately as you stack each section, one onto the next. Constantly check for squareness and levelness while building each course of block. As you complete each section, make certain that you adhere the mortar at each and every joint.



- Install Downdraft Diverter and final row of Side Walls (**Figure 17**). Then place #3 rebar (8 each, 36 inch long) vertically through the cells until they reach bottom. Position them adjacent to the rebar or all-thread sticking up from the hearth.
- All components must be level. Mix approx. 2 cu. ft. of Ready-Mix Concrete. Fill all cells with Ready-Mix Concrete mix.

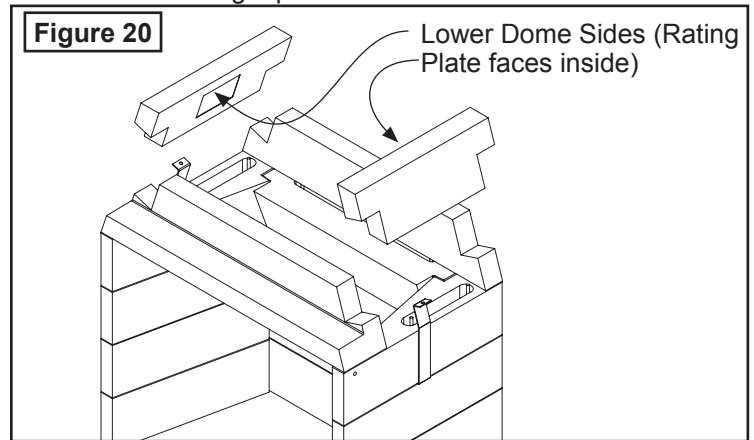


- Set the Lintel and Lower Rear Dome as shown in **Figure 19**. Check that all is level. If adjustments are needed, use shims and fill gaps with an appropriate amount of mortar. **Note:** Although you are cautioned to use Burntech® mortar sparingly because it does have such holding power, you should look over the firebox assembly at the end and fill in any gaps, especially joint connections, with the mortar.

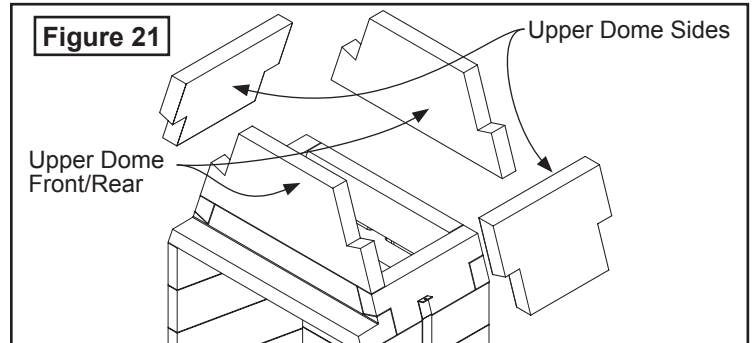


Important: Adjustments can only be made while the mortar is still wet when correcting for squareness and leveling.

- Assemble Lower Dome Sides as shown in **Figure 20**. The beveled face lines up with the inward angles of the lintel sides. Resulting top surfaces should be level.

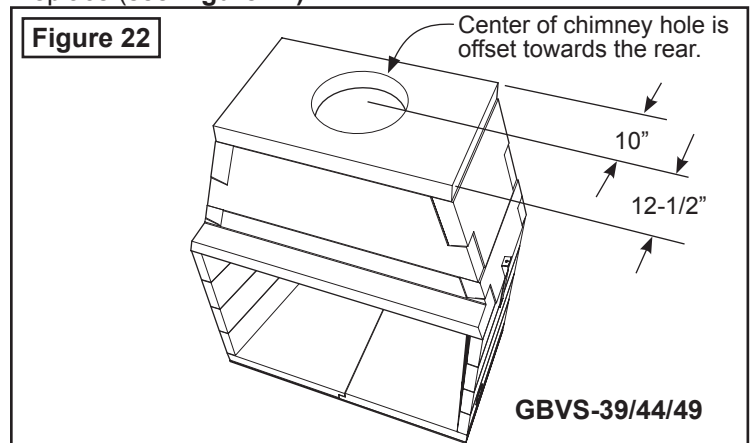


- Verify that the smoke dome side, front and rear walls are aligning correctly and that the surfaces are smooth and uniform. Make sure connections are covered with an adequate amount of mortar. Remember that you have the option of using shims but they must be removed and any holes filled. Make any adjustments to the fireplace alignment before continuing to the next step.
- Assemble Upper Dome and Dome Sides as shown in **Figure 21**. Check your assembly here. If things are proceeding as they should be, the finished top surface should be flat and level.



- Finally, set the Dome Top into position. Be sure that it is flush in every direction as you place it on the crest of the smoke dome wall assembly. After this is done, proceed to section on "Installing Damper and Chimney System".

Note: The chimney hole on the Dome Top is not centered from front to back - it should be offset closest to the rear of the fireplace (see **Figure 22**).



Burntech® Firebrick Liner

The firebrick lining is not supplied as part of your Burntech® fireplace but can be purchased from Burntech®. They are available in split herringbone and full running bond patterns. (see **Figures 24** and **25**)

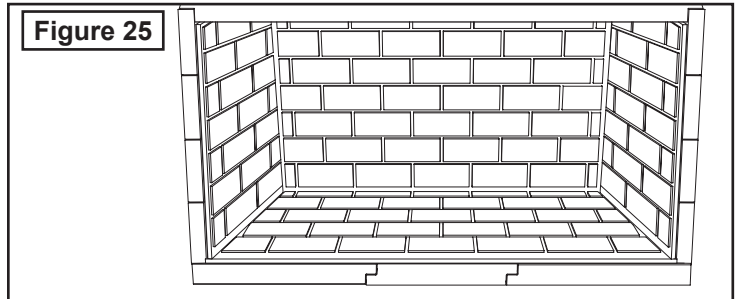
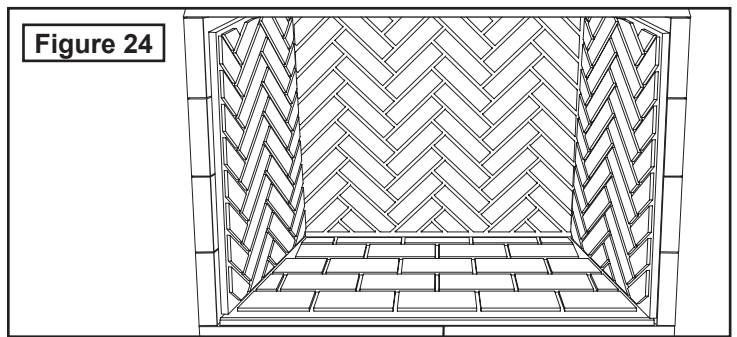
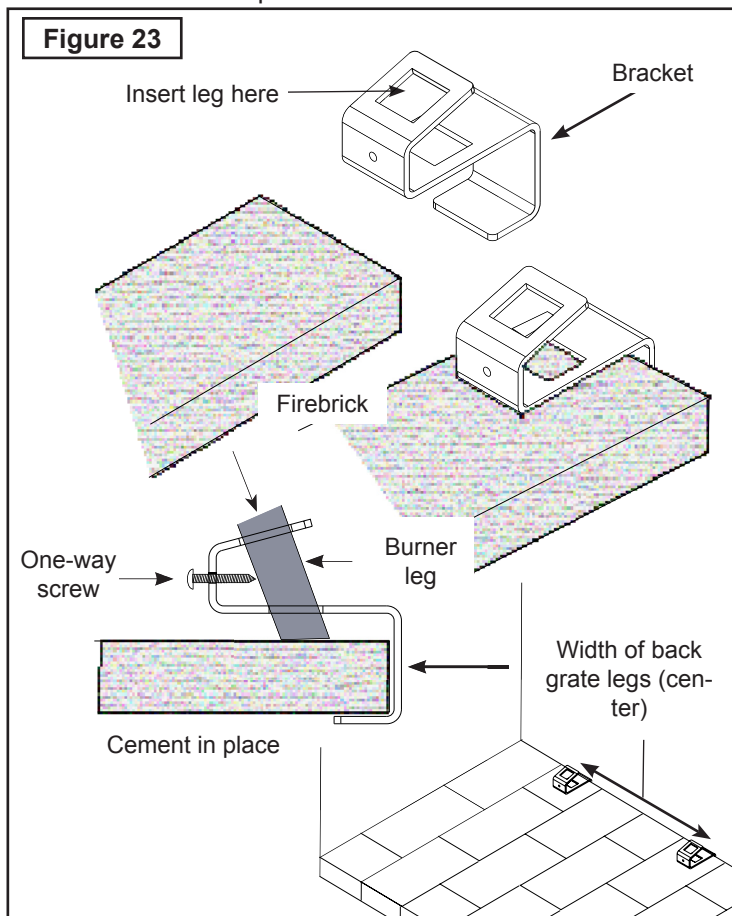
You also have the option to have custom firebrick installed, but it must be at least 1-1/8" thick.

Before you install the lining, you will need to drill all the required gas and electrical line feeds and the combustion air supply access holes.

Disclaimer: Burntech® cannot be held liable for the way firebrick or firebrick mortar performs. It is not unusual for heat stress cracks to appear on the firebrick or firebrick mortar during the life of the fireplace.

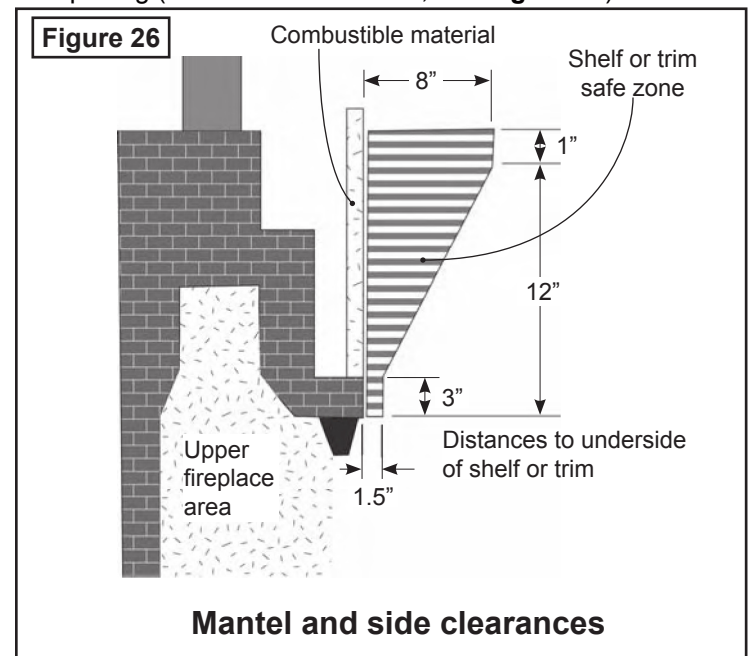
Insertion of Leg Bracket

Insert metal grate leg lock bracket underneath the rear bricks as shown and cement in place.



Fireplace Finishes & Combustible Trim Clearances

1. Mantel and Mantel Shelf Clearances – As with any radiant heat fireplaces, all Burntech® Fireplaces must comply with building code safety clearances, per units that have openings of 6 sq. ft. (six square feet) or greater. You must keep combustibles such as trim 8" away from the firebox opening (for mantel clearances, see **Figure 26**).



Attention: The manufacturer suggests that when building out a fireplace, that the owner and installer opt for complete safety. Burntech®, therefore, advises that combustible mantel shelves feature clearances that are more than the 12" (twelve inch) minimum equal to the projection of the shelf. As a guide, figure that a 10" (ten inch) wide shelf should be 20" (twenty inches) above the fireplace opening.

2. Walls That Adjoin – Safety codes and all practical outlooks insist that your fireplace cannot be installed closer than 2 ft. (two feet) to any walls in the room the fireplace is housed in or to any walls of adjoining rooms.

3. Caution in Regards to Combustibles – If any part of the fireplace or objects in the room (curtains, rugs, paint, cushions, etc.) start to show warping or discoloration due to heat from the fireplace, it is time to take immediate action. Each installation requires a different set of circumstances to deal with the problem, but one thing is certain: do not use the fireplace until you have figured out how to address the problem. You are facing a potential fire hazard. The manufacturer of the Burntech® gas fireplace cannot be responsible for the make-up of material on the exterior of the fireplace you have chosen, nor can Burntech® be held responsible for the materials in a room that may be responding negatively to heat. However, in almost all cases, there is a solution to the problem, either by making adjustments to airflow or the room itself.

Installing Outside Air

1. Be mindful that outside, fresh air is not required for the operation of the Burntech® Fireplace. However, local building codes may require combustion air and it is an excellent choice in some situations, especially in weather conditions where homes are very well insulated and tightly sealed. Check local building codes for specific requirements.
2. Install Outside Air Kit - BFP4-AK into the Burntech® Firebox either through the side wall opening provided. The tubing that goes out of the firebox wall must feed into a flexible metal conduit as the source for outside combustible air. It can go straight out through an outside wall or into a ventilated crawl space. If crawl space is used, check codes for proper termination.
3. Be sure that you carefully check the source of the outside air before you choose the site for your air intake. You don't want a place where snow will collect, where bushes or trees will be growing or a location that is too close to any other structure.
4. The suggested maximum height for the air intake tubing is 50 ft. (fifty feet) above the hearth. That height is if the intake finishes off at a minimum of 3 ft. (three feet) below the chimney cap level.
5. Install a screened termination cap to keep out animals.

Burntech® Chimney Systems

Overview

This Burntech® gas fireplace may be installed with an approved 10" B-vent chimney system. A metal chimney adapter is required to attach the chimney to the top of the firebox. This can be purchased from Burntech, part number TFS-DD.

Installers are cautioned to put the chimney system together exactly as instructed and shown in chimney manufacturer's guide. Any variations may have serious consequences resulting in an accident or malfunction. If instructions are not followed, the warranty on the product will become null and void.

Note that the most important aspect of the installation is the maintenance of minimum required clearances to combustible materials. Those specific installation requirements must be followed with great precision as you are dealing with the potential of fire hazard if the correct combustible limit is not met and maintained. When you look at the drawings provided in this section, you will see that actual installations may vary due to individual design preferences. That is to be expected.

Design and framing specifics may vary from the drawing to installation. Clearances to combustibles is a stringent requirement.

WARNING:

If you do not use chimney manufacturer's parts and/or if you do not follow exact instructions for installation of chimney components, you may be responsible for fireplace malfunction, an accident or a fire hazard.

Attention: Be advised that your choice of Chimney System meets the following standards and requirements:

- Designed for installation in accordance with National Fire Protection Standard
- Meets requirements of NFPA 211
- Designed in accordance with BOCA Basic National Codes
- Meets Uniform Building Codes.

General Chimney Requirements for Height and Clearance

When installed, the **maximum** overall height of the chimney system from bottom of fireplace to the top/termination chimney is 40 feet. The **minimum** installed height of the completed Chimney System is 14 feet with a straight flue stack, 17 feet if the chimney includes one or two offset sections.

Throughout the length of the chimney – along the outer periphery of the flue you must have at least 1" (one inch) of clearance all around the circumference. When the chimney is passing through a living space, it must be completely closed off. A "live" chimney is never allowed to be within reach of humans; the chimney must be completely designed to be hidden from view and protected, away from human interaction.

Note that it is acceptable for the chimney's firestop space and roof flashing to come in direct contact with common construction materials, such as drywall, flooring, paneling, plywood, millboard, particle board and a variety of normal framing materials. Always follow the specific installation requirements of your selected chimney manufacturer.

Determining Finished Height for Fireplace

Determine the number of chimney sections and the chimney components that will be required for the installation. Bear in mind that the minimum height of the Burntech® Fireplace System once installed is 14'-0" (fourteen feet) and that it is higher if offsets are used. Here is how to calculate the height of the completed fireplace:

1. First, ascertain the height of the chimney. This includes the distance from the very top of the smoke dome to where the top of the flue ends. That is where the smoke leaves the flue.
2. Aside from the chimney sections, include all the components that you will be using in your installation - anchor plate damper, firestop spacers, stabilizers, and offsets.
3. Create a Component Height Chart by measuring each component and completing the following:

Anchor Plate	=	4 "
Firestop Spacers	=	-----
Support box	=	-----
Stabilizers	=	-----
Offsets	=	-----
Pipe Sections	=	-----

 (Stabilizer – Must be present on vertical chimneys every 30 feet and on offset chimneys every 10 feet.)
4. Take the total height of every component that will be included in your installation and then subtract that from the desired total height you wish the finished fireplace system to be.
5. You will need to refer to the chimney manufacturer's information in order to figure out the available lengths and the quantity of the sections that you will need.

The Special Case of Offset Installation

Special instructions are given for proper handling of offsets for the chimney system.

- Maximum offset is 30 degrees off of vertical and there should be no more than one offset sequence per chimney system.
- Under no circumstances should two offsets be attached to comprise a 60 degree offset configuration.
- Always maintain at least 2" (two inches) of clearance around all offset installation for air space and necessary clearance from combustibles.

Working with Floors and Ceilings

If your offset chimney installation passes through a floor or ceiling, you will have to use a 30 degree angle offset in which case you are advised to use a firestop spacer.

Should the length of the chimney below the floor or ceiling be less than 10' (ten feet), support the chimney at the juncture of the floor/ceiling with a stabilizer.

As in all phases of chimney component installation, you will want to be sure you are making allowances at every juncture for the 2" (two inch) clearance space from combustibles.

Background Information on Offset Installation

1. When obstructions are present, it will be necessary to offset sections of the chimney using the 30 degree offset component and, for every offset component, two elbow components.

One elbow begins the installation procedure and the second elbow is used to finish off each section. In all likelihood, a 30 degree offset elbow will probably be the first hardware used off the top of the anchor plate damper.

Note: Under no circumstances should you use an offset elbow in place of a return elbow. They have distinct purposes in the configuration of the offset installation and they cannot be interchanged, part for part.

2. Depending on the configuration you are contending with, you may either attach the elbows and offset piping together or you may need to insert sections of the vertical chimney. Whatever the scenario, you cannot allow sections of the chimney to measure more than 20' (twenty feet) between the elbows.
3. Assuming you have sections of vertical pipe that are more than 10' (ten feet) measuring between elbows, you must insert – at midpoint – a chimney stabilizer. When installing the stabilizer, pull out the support straps with a good amount of tension and hammer to the frame.
4. If your offset sections go over 6' (six feet) in length, you will need to give added support using a sheet metal screw – a # 8 x 1/2" is recommended. The screw will be fastened underneath the joint.
5. To ensure a tight fit for the screw, drill a hole that is 1/8" (one-eighth inch) in diameter right at the chimney joint's underside. Be sure that you position the drill at the very center of where the joint overlaps. Be very careful not to drill through the inner casting; drill only through the outer chimney.

Installing Vent Plate and Chimney System

Before installing your B-Vent to the Burntech® Firebox you must install a steel vent plate. The vent plate must be installed in the vertical (open) position on the outside of the vent pipe and is designed to close-off the chimney in the event the pipe is removed or fails, thus alerting the operator of a problem.

Next, attach the masonry anchor plate (supplied). The anchor plate is pre-drilled with holes for four (4) cement wedge-anchors.

1. Place the plate and mark the top of the firebox. Then remove the plate to carefully pre-drill holes for the wedge anchors.
2. Using the supplied vent plate, apply a 1/4" (one quarter inch) bead of gasket cement around the base damper lead pipe. Apply ceramic rope gasket on to the gasket cement.
3. Apply balance of gasket cement in a 1/4" (one quarter inch) bead on top of smoke dome top approx. 3" (3 inches) outside of outlet hole. Install damper on top of unit pressing damper into cement. Attach using four (4) #8 cement wedge-anchors.

Venting Installation

A "B-type" venting system must be connected to the appliance for venting to outside of building. The following section is provided as a guide to a standard B-type vent installation.

Standing codes requirements concerning B-type vent installations may vary within your state, province or local codes jurisdiction. Therefore, it is recommended that you check with your local building codes for specific requirements or in absence of local codes, follow Section 7.0 of the current National Fuel Gas Code ANSI Z223.1/NFPA 54 for Category I systems using double wall B-1 vent pipe.

This gas appliance must be vented to the outdoors only and may not be terminated into an attic space or into a chimney flue servicing a solid fuel burning appliance.

This appliance may be vented through a manufactured chimney system or a masonry chimney using a B-vent adapter or a chimney liner system if the system is listed, inspected and approved by local codes and/or building authorities. The examples shown in Fig. 2 are typical of most B-vent installations and codes practices.

Example 1: Shows the minimum allowable system height and lateral offset for an inclination of 60° or greater.

Code specifies that offsets of 60° or greater are considered horizontal and must follow the 75% rule for lateral to total vertical system height.

Codes also allows only one offset in the total system when at 60° or greater.

The total vertical height in this example represents the minimum height of 8 ft. and therefore the allowable lateral is 6 ft. when the 75% rule applies.

If the lateral length must exceed 75% then the system must be sized in accordance with the Category I venting tables.

Example 2: Shows a multiple offset each at a 45° inclination.

Multiple offsets are permitted if they do not exceed a 45° inclination. The total lengths of the two offsets are not required to meet the 75% allowable rule.

Example 3: Shows a single offset at 45° of inclination and therefore the lateral length at 10 ft. of offset does not have to meet the 75% rule.

In each case the offsets must be supported and firestops must be positioned wherever the vent must pass through a sub-floor, ceiling joist or an attic overhang.

The vent pipe must terminate vertically into a listed type vent cap and extend a sufficient height through an approved roof flashing, roof jack or a roof thimble. At all points the listed clearances must be maintained.

Vent terminations must be located in accordance with height and proximity rules of NFPA No. 54.

These rules apply to vents at 12" diameter or less and require a minimum height in accordance with the roof pitch and a minimum of 8 ft. distance from a vertical wall or obstruction (see Fig. 3).

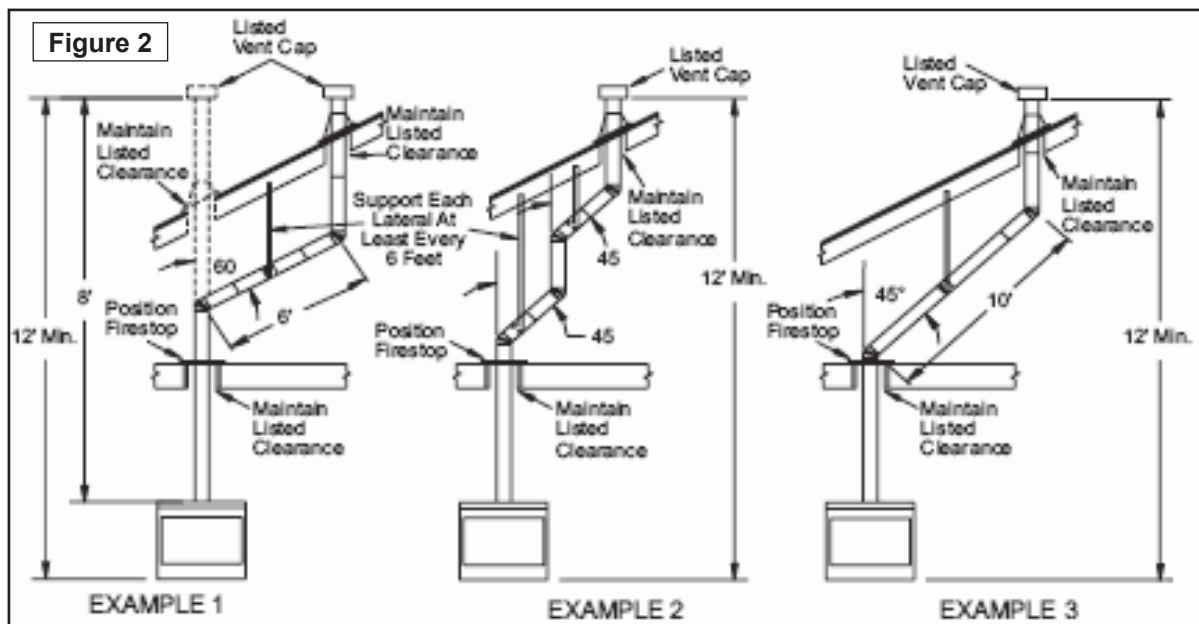
If venting horizontally through a side wall becomes necessary, a listed thimble approved for use with B-type vent must be used. Check with your local codes before venting through a side wall.

Some codes areas allow the use of existing B-type vent systems if the system is at or above the recommended diameter of the flue.

The flue connection must be made using listed B-type connectors and the existing system must be code inspected for damage and proper installation.

It is not recommended that this appliance be common vented with an existing gas burning appliance. However, if it becomes necessary to common vent this appliance, the venting system must be sized and configured in accordance with the common venting guides Appendix G of the current National Fuel Gas Code NFPA No. 54/ANSI Z223.1.

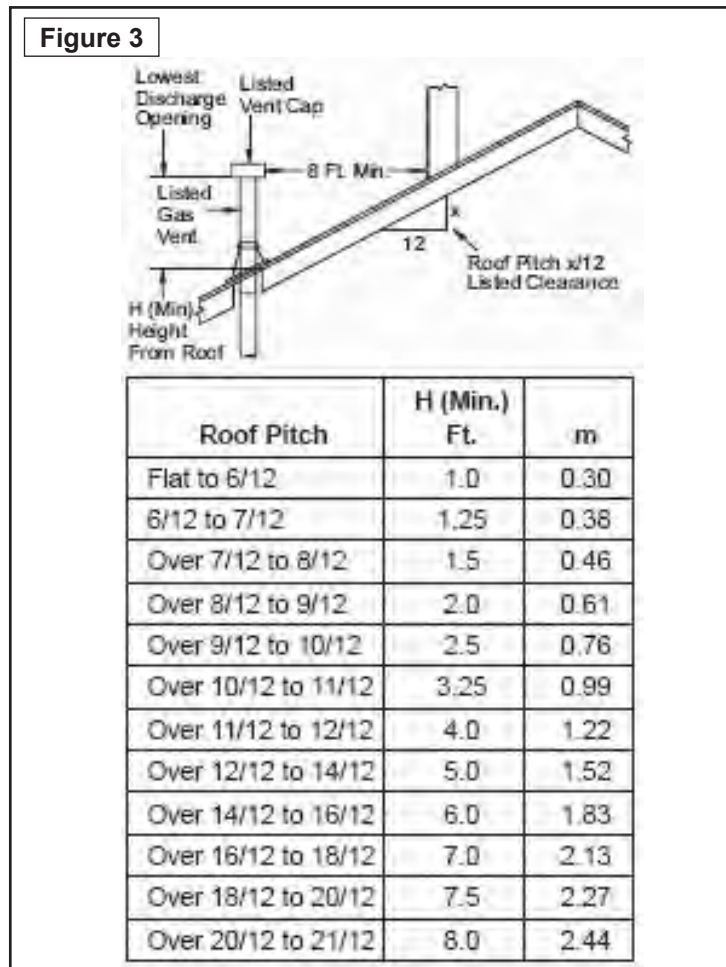
Note: Before connecting this appliance to an existing vent system or a common venting system, consult with your local architect, planner, or building official.



Specifying Chimney Heights

If the horizontal distance from the mid-point of the chimney to the peak of the roof ridge is less than 10 feet, the top of the chimney must be at least 2 feet above the roof ridge. This is called the “2 foot in 10 foot” rule.

If the horizontal distance from the chimney’s center measured across to the ridge of the roof is more than 10 feet, the top of the chimney still needs to be at least 2 feet above a point measured from a distance of 10 feet horizontally along the roof.



Though there are many configurations in meeting these requirements, chimney height cannot be less than 3 feet above the roof at the edge of the chimney.

If the roof is flat, the chimney must extend no less than 3 feet from where it intersects the roof. If the chimney is entering the roof at an angle, measure the shorter angle where the chimney intersects the roof which should be at least 3 feet.

Note: The previous guidelines do not take into consideration outside conditions which may require a higher chimney due to foliage, other buildings, power lines and weather conditions in your area. Follow the chimney manufacturer’s installation guide for further information.

*Nominal BTU based on gas inlet pressure. Nominal gas inlet pressure for natural gas is 5” W.C.

Chimney Termination Units

You will be installing at or possibly near the top of the chimney chase flashing. A top termination unit is the essential piece of equipment in keeping sparks out of the atmosphere. Before installing this important piece of equipment, you will have to make a judgment call as to whether or not the termination unit – like all the other exterior exposed chimney components, for that matter – should be painted in order to protect it/them from rusting and weathering. Particularly if you are installing the fireplace and chimney near water or in a high humidity area, the manufacturer recommends a top quality, rust-proof paint especially formulated for metal. Follow the paint manufacturer’s directions, applying the paint well before you are scheduled to install the round top termination unit or any of the flashings or flues that will be exposed to outside weather conditions.

Venting terminals shall not be recessed into walls or siding. This appliance, when installed, must be electrically grounded in accordance with local codes and in the absence of local codes, with the National Electrical Code, ANSI NFPA 70, or the Canadian Electrical Code, CSA C22.1.

Important Pre-installation Information

Before you begin, review the information and safeguards below regarding the installation and operation of the gas Fireplace.

This fireplace may only be connected to the gas supply listed on the label. Never use propane gas in a gas fireplace designed for natural gas or natural gas in a gas fireplace designed for use with propane gas.

The gas fireplace must be installed by an BURNTech Certified or other qualified professional installer. The installation, including provisions for combustion and ventilation air, must conform with local codes, or, in the absence of local codes, with the latest edition of the National Fuel Gas Code, ANSI Z223.1, and NFPA54.

The fireplace must have a gas supply line that has been installed by a qualified technician in accordance with all local codes.

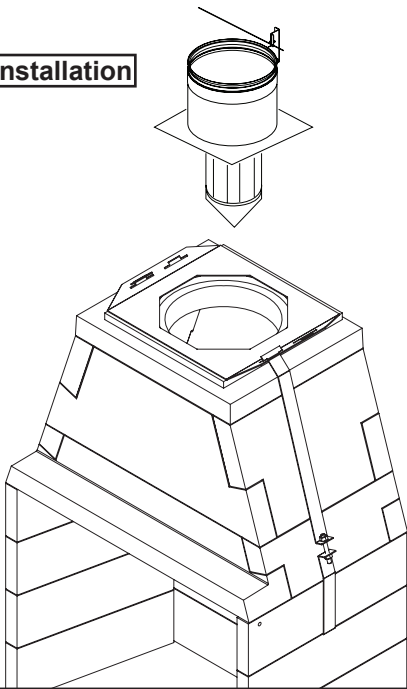
The gas supply line must be 1/2” minimum interior diameter. If the gas line to the fireplace is longer than 5’, a larger diameter line may be necessary.

BURNTech Supplied Burner P/N	BTU* x 1000	Orifice Drill Size (top/front)		Fireplace Model #
		Nat	LP	
GML-24-01(N)(P)	60	28/48	47/56	GBVS-39 or -44
GML-30-01N	90	19/41		GBVS-49
GML-30-01P	84		40/55	

WARNING: THIS FIREPLACE IS DESIGNED FOR USE ONLY WITH THE ANSI Z21.50 DECORATIVE GAS LOGS AND BURNER TESTED AND APPROVED FOR THIS FIREPLACE. Any change or alteration in burners or log sets must be approved by Burntech in writing or warranty will be void. BTU's can never exceed more than 65,000 on Models GBVS 39 and 44 and 80,000 btu's on Model GBVS 49. Unapproved changes or alterations could result in a fire or explosion resulting in property damage, personal injury or death.

Figure 27

Vent Plate Installation



Attention: Clearance to combustible construction can not be reduced during course of construction. For the safe operation of the finished fireplace, these clearances must be followed when building the framework to house the chimney system.

Installing the valve/control box assembly

1. Fasten the valve/control box assembly to a stud such that the control switch is facing in the desired direction and flush with the future location of the finished wall or other enclosure.
2. Install the two 'D' batteries into the battery holder within the control box.
3. Run the wires for the spill switch through the small hole in the upper wall. Important: This control box must remain accessible and removable for service after installation.

Installing Spill Switch and Baffle assembly

1. Connect the blade connectors on the spill switch wires to the matching wires from the valve/ control box assembly coming through the upper hole in the firebox.
2. Center the black steel baffle with the spill switch sensor pointed toward the room (out of the fireplace).
3. Use six (6) drywalls screws to fasten it in place on the front-most part of the firebox ceiling as shown through the six (6) pre-drilled holes.
4. Attach the trim plates to the left and right side of the baffle with the sheet metal screws so that the edges are flush with the firebrick.

Important: This baffle assembly and only this one supplied with the kit (with spill switch) must be properly installed for the safe operation of this gas fireplace.

Figure 28

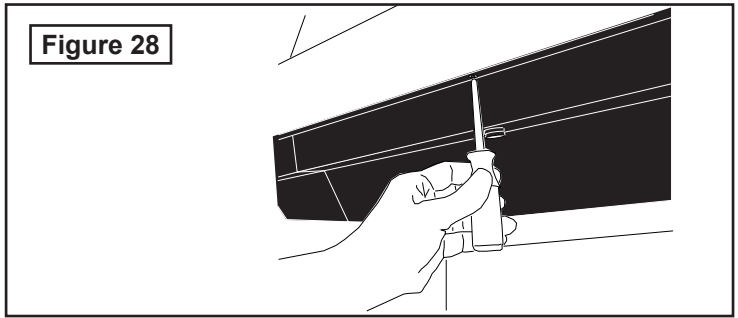


Figure 29

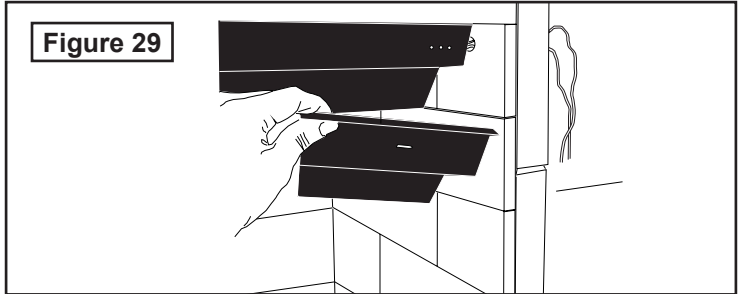
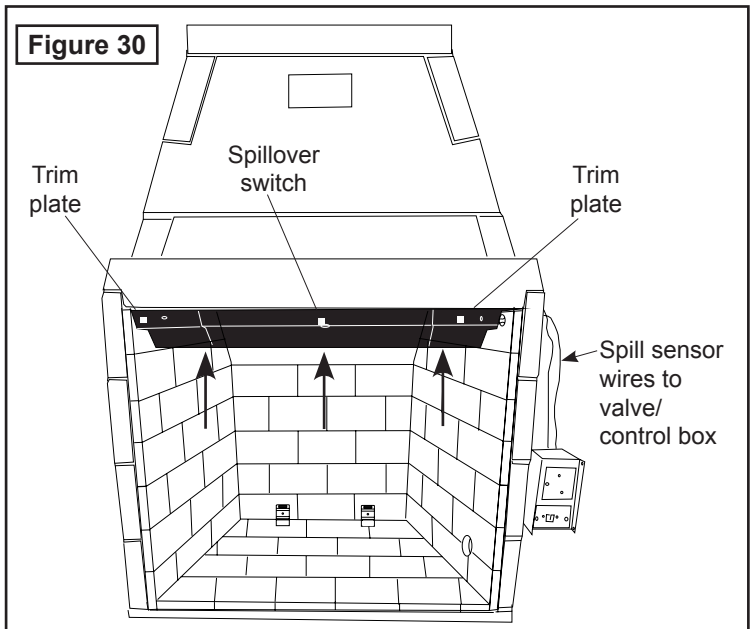


Figure 30



Owner's Operation & Precautions

Installers of the Burntech® are urged to call the attention of fireplace owners to the following precautions.

The installer should hand-deliver this owner's manual to the owner or leave behind with the unit after it the installation is complete.

Warning: Use only the included fireplace grate or manufacturer approved replacement.

Warning: Do not attempt to operate your fireplace without a fire safety screen installed.

CAUTION: Use only approved gas log sets. Never use chemical chimney cleaners. **Never burn solid fuel in this fireplace under any circumstance.**

1. First Lighting of the Burntech® – After construction is completed, all elements of the fireplace and chimney system must be completely dry. This means that the unit must stand without any firing for a minimum of 28 days. Only after that period of time can a first lighting take place. Do not let the fire burn for more than one hour. After this first lighting – when the fireplace has started to “cure” Do not set another fire for at least 24 hours.
2. Second Lighting – With the second lighting you can let the fire burn two hours – no more.
3. After First and Second Lighting – When the fireplace has been properly cured with careful “maiden” firings, you will be able to run the burner for as long as you like.

Attaching the Burner and the Grate (Burntech Burner Only)

1. Unpack the burner assembly and place the rear legs of the burner into the brackets in the back of the firebox (see **Figure 23**).
2. Thread the pilot lines from the burner pilot assembly and through the hole in the lower side of the firewall to the valve/control box assembly and attach to the valve.
3. Connect the supplied flex connector from the output of the valve, through the hole and to the burner.
4. Connect the second flex connector from the input of the valve to the gas stub down stream from the required manual shut-off valve.

Note: The required 1/8” NPT up stream pressure tap is built into the valve (**Figure 33**).

CAUTION: CHECK ALL CONNECTIONS FOR GAS LEAKS USING A HALF-AND-HALF SOAPY WATER SOLUTION.

IF A LEAK IS DETECTED TIGHTEN CONNECTIONS AND TEST AGAIN.

NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.

Keep the fireplace area clear and free from combustible materials, gasoline, and other flammable vapors and liquids.

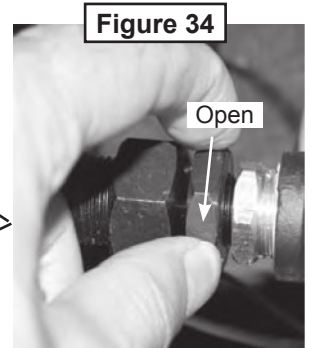
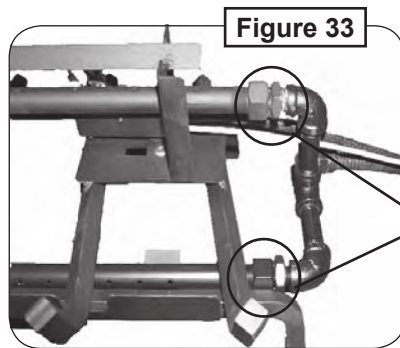
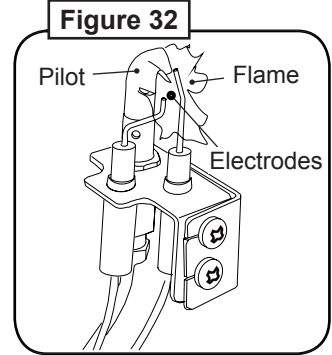
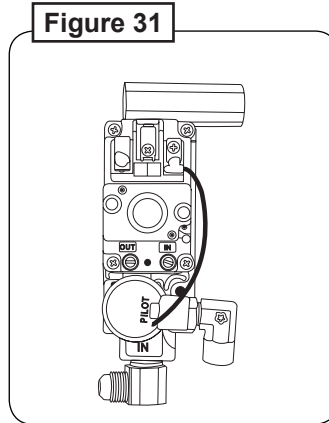
5. Insert a one-way screw into the hole in the front of each bracket and tighten with a long (min. 12”) screw driver until contact is made with the grate leg and the grate is permanently locked in place (see **Figure 23**).

IMPORTANT: Once installed the burner cannot be removed.

6. Fill in the holes you have drilled around the gas piping with the regular Burntech® mortar.

Checking and Adjusting the Pilot (Burntech burner only)

1. Follow the lighting instructions to light the pilot. The pilot flame should encircle the generator tip which is preset at the factory (**Figure 32**). Ordinarily, the pilot will not require field adjustment.
2. If adjustment is necessary, remove the cap screw (**Figure 32**) and turn the smaller gas adjustment screw inside counterclockwise to increase the pilot flame and clockwise to decrease the pilot flame. Replace cap screw.



Note: This burner system is equipped with an APK-01 valve assembly.

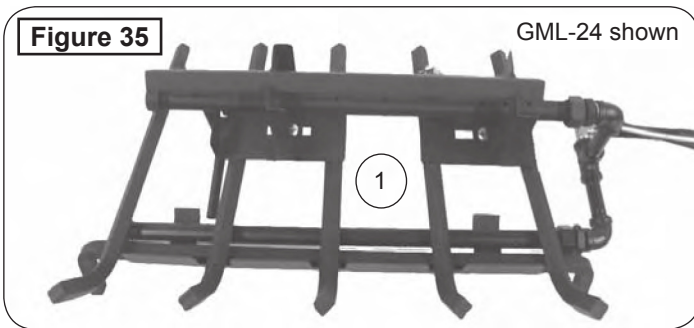
Placing the Decorative Lava Rock

If desired, open the bag of lava rock and pour its contents around the base of the grating in an attractive pattern. Do not place the Lava Rock on the logs or grate.

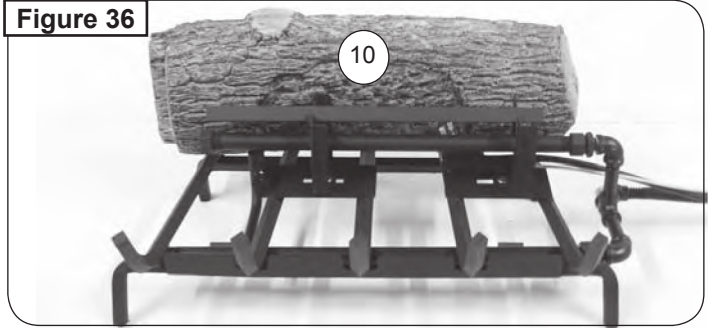
Adjusting Air Mixers

Burners are equipped with air mixers for the top and front burners. Adjust the size and color of the flame by opening (turn outward) or closing (turn inward) as shown in **Figure 33, 34**.

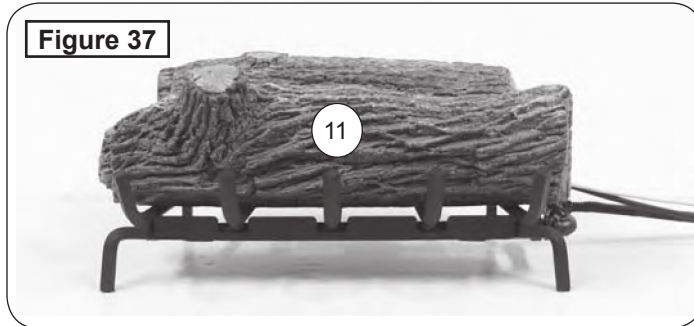
Log Placement (Burntech log Set Only)



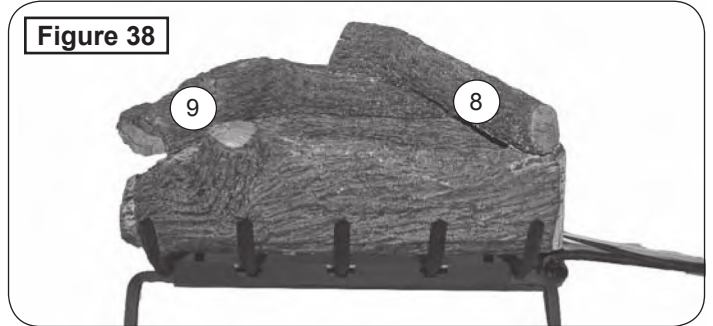
Start with the grate/burner assembly in place



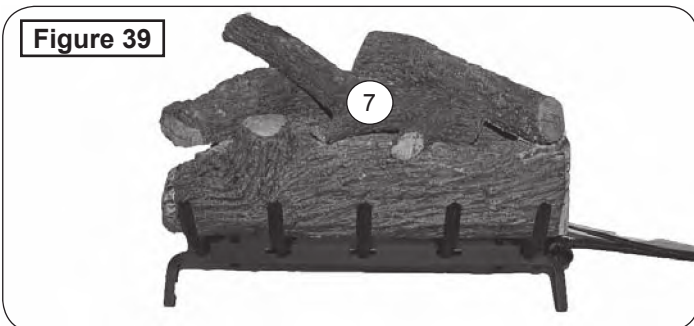
Place back bottom log



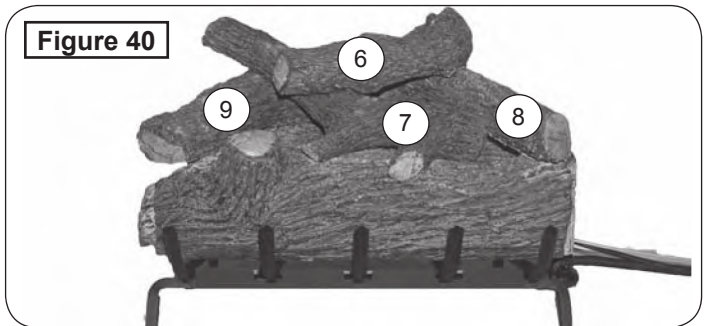
Place front bottom log



Place back top logs (#8 and #9)



Place front top log (#7)



All logs in place

Placing the Logs

1. Place the back bottom log on the grate behind the top burner and as far forward (against the top burner) as possible without touching the pilot. The flat side should be down and the heat chambers facing the back of the fireplace (**Figure 35**).
2. Place the front log on the grate in front of the top burner pipe with the flat down and the heat chambers toward the burner pipe and the log as far forward as possible while keeping the back parallel with the burner pipe (**Figure 36**).
3. Place top logs across the front and back logs in the order and positions shown in **Figure 40**.

WARNING

Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this appliance may result in property damage or personal injury. For Owner supplied Log Sets, follow manufactures instruction while referencing Burntech Instructions

Lighting and Operating Instructions (Burntech supplied burner only)

FOR YOUR SAFETY, READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do not use this gas fireplace if any part has been underwater. Immediately call for a qualified professional service technician to inspect the fireplace and to replace any part of the control system and any gas control which has been under water.

The Burntech® burner system has a pilot which can be lit by hand using a match or lighter. When lighting the pilot, follow these instructions exactly.

BEFORE LIGHTING, smell all around the burner area for gas. Be sure to smell next to the floor as some gas is heavier than air and will settle on the floor. IF YOU SMELL GAS, FOLLOW THE INSTRUCTIONS ON THE COVER (P. 1).

TO LIGHT THE FIREPLACE WITH THE WALL SWITCH

Move the ON-REMOTE-OFF wall switch to the **ON** position (**Figure 41**). This transmits a rapid series of sparks at the pilot head and will ignite the gas.

TO SHUT DOWN THE GAS FIREPLACE USING THE WALL SWITCH

Move the switch to the OFF position (**Figure 41**). The gas flow will cease, and all flames (main burner and pilot) will go out (see important note below).

OPERATING THE BURNER USING THE REMOTE

Move the wall switch to the REMOTE position and follow the instructions included in the remote kit for lighting and shutting down the attached burner.

IMPORTANT: Do not allow the fireplace opening to be blocked in any way while operating the fireplace. The fireplace may be operated with a Burntech® screen installed and drawn.

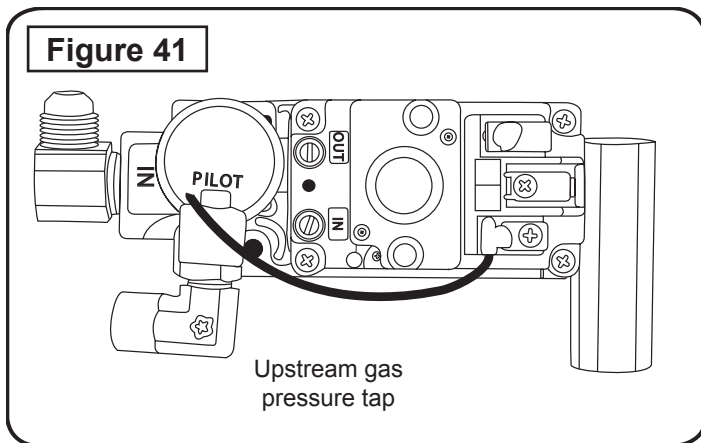
MAINTAINING THE PILOT

Your gas fireplace is equipped with a safety pilot that will shut off the gas supply in case the pilot is not burning or functioning properly. Regularly verify that the pilot is adjusted properly with the pilot flame hitting the electrodes as shown in **Figure 42**. If the pilot will not stay lit, call your local gas utility or gas supplier.

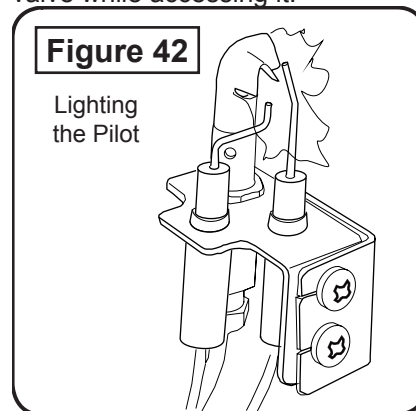
TO CHECK UPSTREAM GAS PRESSURE

Unscrew the four (4) screws above and below the control panel face, then pull the control panel out far enough to expose the test ports on the valve (**Figure 41**). Unscrew the port marked IN part way and test.

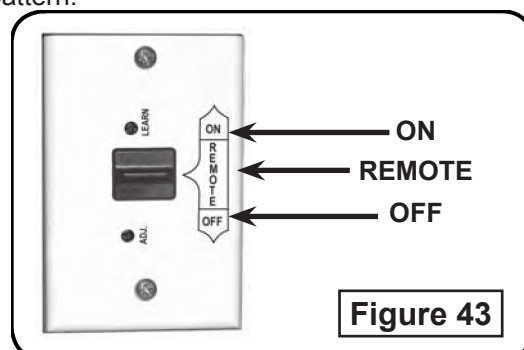
CAUTION: Do not kink the flex connectors coming from the valve while accessing it.



Warning: BURNTech accepts no responsibility for log sets and burners provided by installer or customer.



Note: Pilot flame should encircle top of electrodes. See instructions cover for example of proper main burner flame pattern.



Maintenance and Service

Maintenance

Once installed and operating properly, the Burntech® gas fireplace requires very little maintenance.

You should inspect the fireplace, chimney, burner and control annually for the following:

1. **Excessive Sooting** - Some sooting of the logs is normal and adds to the natural appearance of burned wood. If soot accumulates, you may brush the soot off with a stiff brush. Logs may also be cleaned by allowing them to heat up, then spraying them with water where soot has accumulated.
2. **Debris around the control** - Inspect the control and pilot to be sure it is free of any dirt or debris.
3. **Insects and burner blockage** - Check the burner ports and the air-mixer, if present, to make sure they are free from debris. Blocked burner ports and orifices may result in poor flame distribution or flame at air mixer (if equipped). Reference SOLUTION, to symptoms 2-4, of **Troubleshooting**.

Service

It is recommended that a qualified professional service technician be called to service the gas fireplace and its venting system at least annually or should service be required. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc.

It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.

The Troubleshooting section of these instructions serves as a guide for ensuring optimum performance of the gas fireplace.

Flame Appearance

The flames should be blue at the base and a combination of blue/yellow at the body and tips.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
1. Pilot will NOT stay lit.	a. Pilot generator may not be producing sufficient millivolts.	a. Check with a millivolt meter. Should be 250 millivolts or more.
	b. Pilot flame making a blowing sound	b. Pilot needs adjusting (see "Checking and Adjusting the Pilot" on page 22).
	c. Generator wire leads attached to the wrong terminals on the valve.	c. Connect leads per wiring diagram, previous page.
	d. Defective thermo-magnetic safety in valve.	d. Replace valve.
2. Pilot Burning. No Gas to Burner.	a. Safety valve not turned to the ON position after lighting pilot.	a. Turn to ON position.
	b. Wire leads are not properly connected to valve or switch terminals.	b. Attach all wire leads tightly to proper terminals (See wiring diagram, previous page).
	c. Voltage to pilot generator too low.	c. See section 1a above.
	d. Defective valve.	d. Replace valve.
3. Fireplace Not burning properly.	a. Low flame/uneven flame.	a. Check for low gas pressure; minimum operating pressures of 5" W.C. at manifold.
4. Fireplace will not shut OFF.	a. Control Switch lead wires to the valve may be shorted together or on wrong terminals.	a. See wiring diagram, previous page. System takes 15-20 seconds to complete shutdown (nominal).
5. Frequent pilot outage.	a. Pilot flame is out of adjustment.	a. See section 1b above.
	b. Down drafts from the chimney, extinguishing the pilot.	b. Check draft. Consult with a qualified chimney expert.
6. Fireplace shuts down during operation.	a. Improper venting causing spill switch to trip repeatedly.	a. Check draft. Consult with a qualified chimney expert. Consider installing a combustion air kit.
	b. Spill switch improperly mounted.	b. See section on "Installing Spill Switch and Baffle Assembly" on page 21.
	c. Smoke Diverter not in place.	c. Install Smoke Diverter with Spill Switch per instructions.
7. Excessive soot on logs.	a. Yellow flame impingement.	a. Open air shutter on front burner or main burner as needed.

Appendix I

For installations regulated by the International Residential Code, the support foundation for the fireplace installed on concrete shall consist of a minimum of 6 inches thick reinforced concrete slab. The minimum specified compressive strength of f'_c , shall be as required in Table R402.2 of the International Residential Code (IRC). Concrete subject to moderate or severe weathering as indicated in Figure R301.2(3) of the International Residential Code (IRC) shall be air entrained as specified in Table R402.2 of the International Residential Code (IRC). The maximum weight of fly ash, other pozzolans, silica fume, slag or blended cements that is included in concrete mixtures for garage floor slabs and for exterior porches, carport slabs and steps that will be exposed to deicing chemicals shall not exceed the percentages of the total weight of cementitious materials specified in Section 4.2.3 of ACI 318. Materials used to produce concrete and testing thereof shall comply with the applicable standards listed in Chapter 3 of ACI 318.

For installations regulated by the International Building Code (IBC), the support foundation for the fireplace installed on concrete shall consist of a minimum of 6 inches thick reinforced concrete slab. The concrete strength and durability shall comply with Sections 1903, 1904 and 1905 of the International Building Code (IBC).

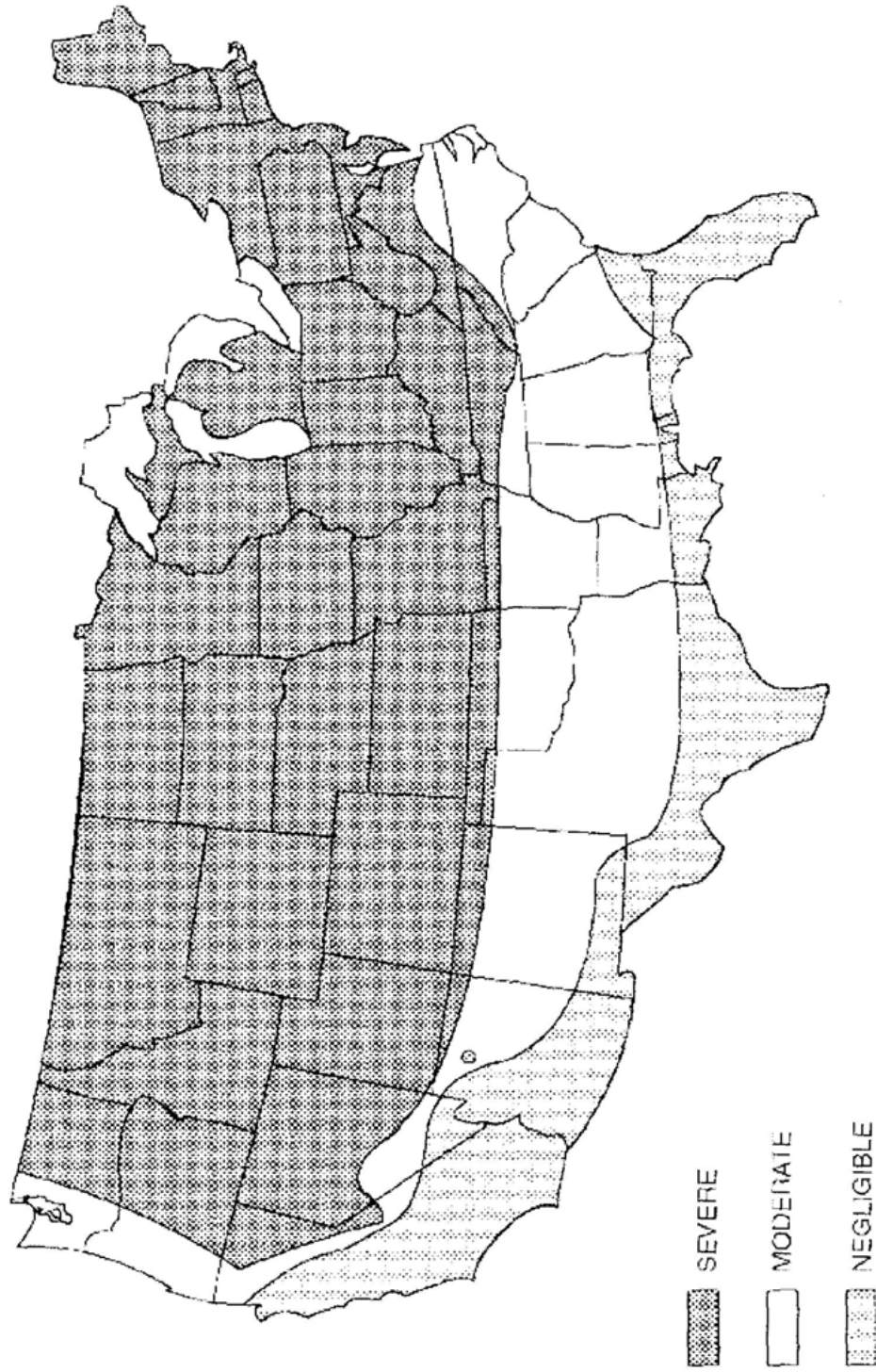
TABLE R402.2 MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE

TYPE OR LOCATION OF CONCRETE CONSTRUCTION	MINIMUM SPECIFIED COMPRESSIVE STRENGTH^a (f'_c)	
	Negligible	Moderate or Severe Weathering Potential^b
Basement walls, foundations and other concrete not exposed to the weather	2,500	2,500 ^c
Basement slabs and interior slabs on grade, except garage floor slabs	2,500	2,500 ^c
Basement walls, foundation walls, exterior walls and other vertical concrete work exposed to the weather	2,500	3,000 ^d
Porches, carport slabs and steps exposed to the weather, and garage floor slabs	2,500	3,000 ^{d,e,f}

- a. Strength at 28 days psi.
- b. See Figure R301.2(3) for weathering potential.
- c. Concrete in these locations that may be subject to freezing and thawing during construction shall be air-entrained concrete in accordance with Footnote d.
- d. Concrete shall be air-entrained. Total air content (percent by volume of concrete) shall be not less than 5 percent or more than 7 percent.
- e. See Section R402.2 for maximum cementitious materials content.
- f. For garage floors with a steel troweled finish, reduction of the total air content (percent by volume of concrete) to not less than 3 percent is permitted if the specified compressive strength of the concrete is increased to not less than 4,000 psi.

Appendix II

FIGURE R301.2(3) WEATHERING PROBABILITY MAP FOR CONCRETE



- a. Alaska and Hawaii are classified as severe and negligible, respectively.
- b. Lines defining areas are approximate only. Local conditions may be more or less severe than indicated by region classification. A severe classification is where weather conditions result in significant snowfall combined with extended periods during which there is little or no natural thawing causing deicing salts to be used extensively.

Lifetime Limited Warranty

Burntech® Fireplace Solutions

Burntech® Fireplace Solutions, Inc. warrants all Burntech® Fireplaces to be free from defects in materials that adversely affect fireplace performance for the lifetime of the product from the date of purchase, subject to the terms and conditions of this limited warranty. Burntech® Fireplace Solutions does not warrant accessory chimney, outside air ducts and devices not manufactured by Burntech® Fireplace Solutions.

This warranty covers only products manufactured by Burntech® Fireplace Solutions, specifically the modular masonry fireplace, and **NO WARRANTY, EXPRESS OR IMPLIED, EXTENDS TO ANY OF THE HARDWARE, FOUNDATION, VENTING, DUCTS, OR ACCESSORIES. THIS WARRANTY DOES NOT COVER DRAFTING, SMOKING, OR SOOTING OF THE FIREPLACE SYSTEM.** Factors beyond the manufacturer's control affect drafting, smoking, and sooting and Burntech® Fireplace Solutions cannot guarantee these aspects of performance.

Coverage under this warranty is subject to the following conditions and exclusions:

- This warranty is null and void when the fireplaces are not installed pursuant to the installation instructions provided by Burntech® Fireplace Solutions or local building codes have not been followed completely.
- Glass is warranted against thermal breakage only and only on models that are manufactured by Burntech® Fireplace Solutions with a glass front. On Direct Vent models the safety glass or safety screen must be kept in front of this glass when fireplace is in use. Safety screen must be used on all models when in use.
- This warranty does not apply to any component or part that shows evidence of misuse, abuse, improper installation, accident or lack of regular maintenance. Burntech® Fireplace Solutions is not responsible for misuse or mishandling of component parts.
- This warranty does not apply to any damage sustained to the appliance while in transit.
- Neither Burntech® Fireplace Solutions, nor any affiliate thereof, is responsible for any labor costs or indirect costs incurred for the replacement of defective components. Any covered component that, in our judgment, is defective shall be repaired, replaced or refunded at Burntech® Fireplace Solutions's option.
- Nothing in this warranty makes Burntech® Fireplace Solutions, or any affiliate thereof, liable in any respect for any injury or damage to the building or structure in which the fireplace has been installed or to the persons or property therein arising out of the use, misuse, or installation of properly manufactured Burntech® Fireplace Solutions products.
- The fireplace must be used in accordance with operating instructions. The grate or andirons must be installed when using the fireplace.

NEITHER Burntech® Fireplace Solutions, NOR ANY AFFILIATE THEREOF, SHALL BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR EXPENSES ARISING OUT OF THE USE OF THE FIREPLACE. ALL SUCH DAMAGES AND EXPENSES ARE HEREBY EXCLUDED. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

If a component is found to be defective under the terms of this warranty the party this warranty is extended shall, notify Burntech® Fireplace Solutions, 6520 Platt Ave #577, West Hills, CA 91307 in writing, by registered mail, within thirty (30) days following the discovery of the defect within the lifetime warranty period. The letter shall include proof of purchase and state the (1) date of purchase, model number and serial number ; (2) place of purchase; (3) address of installation; (4) name, address and phone number of the homeowner; and (5) a brief description of the defect.

This warranty applies only to those fireplaces installed in the continental United States, Alaska and Canada. If any part of this warranty is found to be unenforceable, the remaining parts shall remain in force and effect.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED EITHER IN FACT OR BY OPERATION OF LAW. Burntech® Fireplace Solutions HEREBY DISCLAIMS ALL GUARANTEES AND WARRANTIES, EXPRESS OR IMPLIED, BEYOND THE WARRANTIES SET FORTH HEREIN, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Burntech® Fireplace Solutions

6520 Platt Ave #577, West Hills, CA 91307

Main: (818)564-4253, Fax: (818) 564-4232

WWW.BURNTECH.COM

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