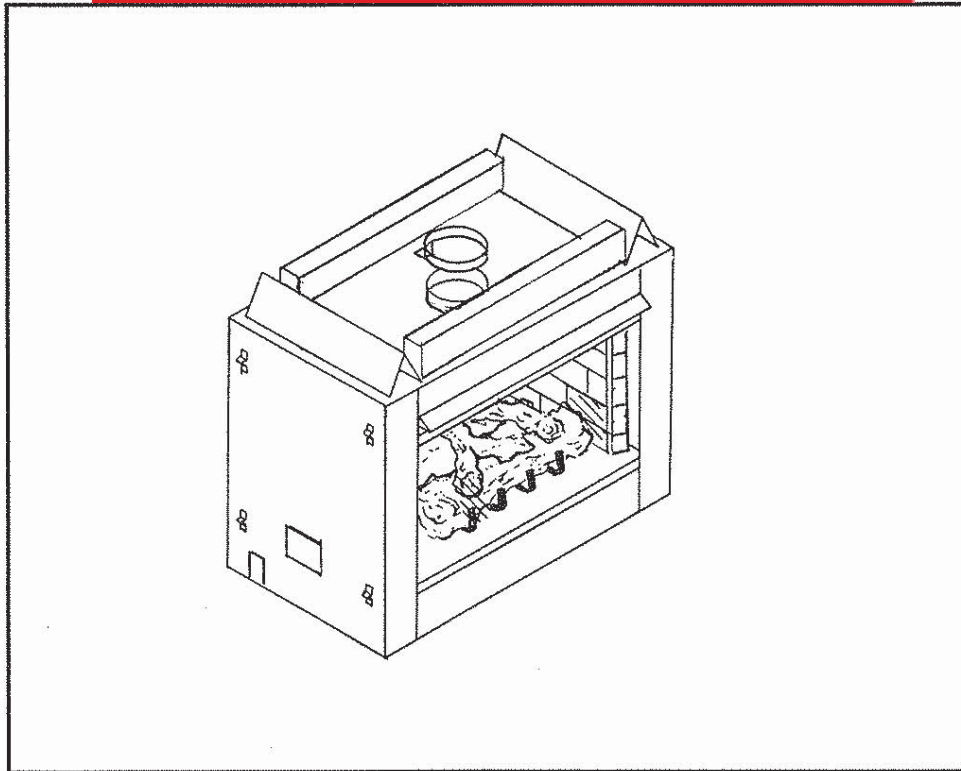


This appliance has been retired.  
Service parts pages within have been removed.  
For replacement parts, please refer to the individual  
service parts list located on the brand websites.



U.S. PATENTS 4,875,464 AND 5,000,162

# Model ST-42GTV Installation and Operation Instructions

**A.G.A. DESIGN CERTIFIED  
CGA CERTIFIED**



THIS MANUAL MUST BE USED FOR INSTALLATION AND RETAINED BY THE HOMEOWNER FOR  
OPERATION AND MAINTENANCE.

**GAS TECHNOLOGIES, INC.**  
6665 W. Hwy. 13 Savage, MN 55378 (612)890-8367



## INSTALLATION AND OPERATION INSTRUCTIONS

PLEASE READ THIS MANUAL BEFORE INSTALLING AND USING THE FIREPLACE

MODEL ST-42GTV IS A.G.A. DESIGN CERTIFIED AND CGA CERTIFIED FOR NATURAL GAS AND PROPANE

### FOR YOUR SAFETY

#### If you smell gas:

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

### FOR YOUR SAFETY

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

DUE TO HIGH TEMPERATURES, THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIAL ON OR NEAR THE APPLIANCE. CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.

**WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.**

**IMPORTANT: READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A POSSIBLE FIRE HAZARD AND WILL VOID THE WARRANTY.**

Save this manual for future reference.

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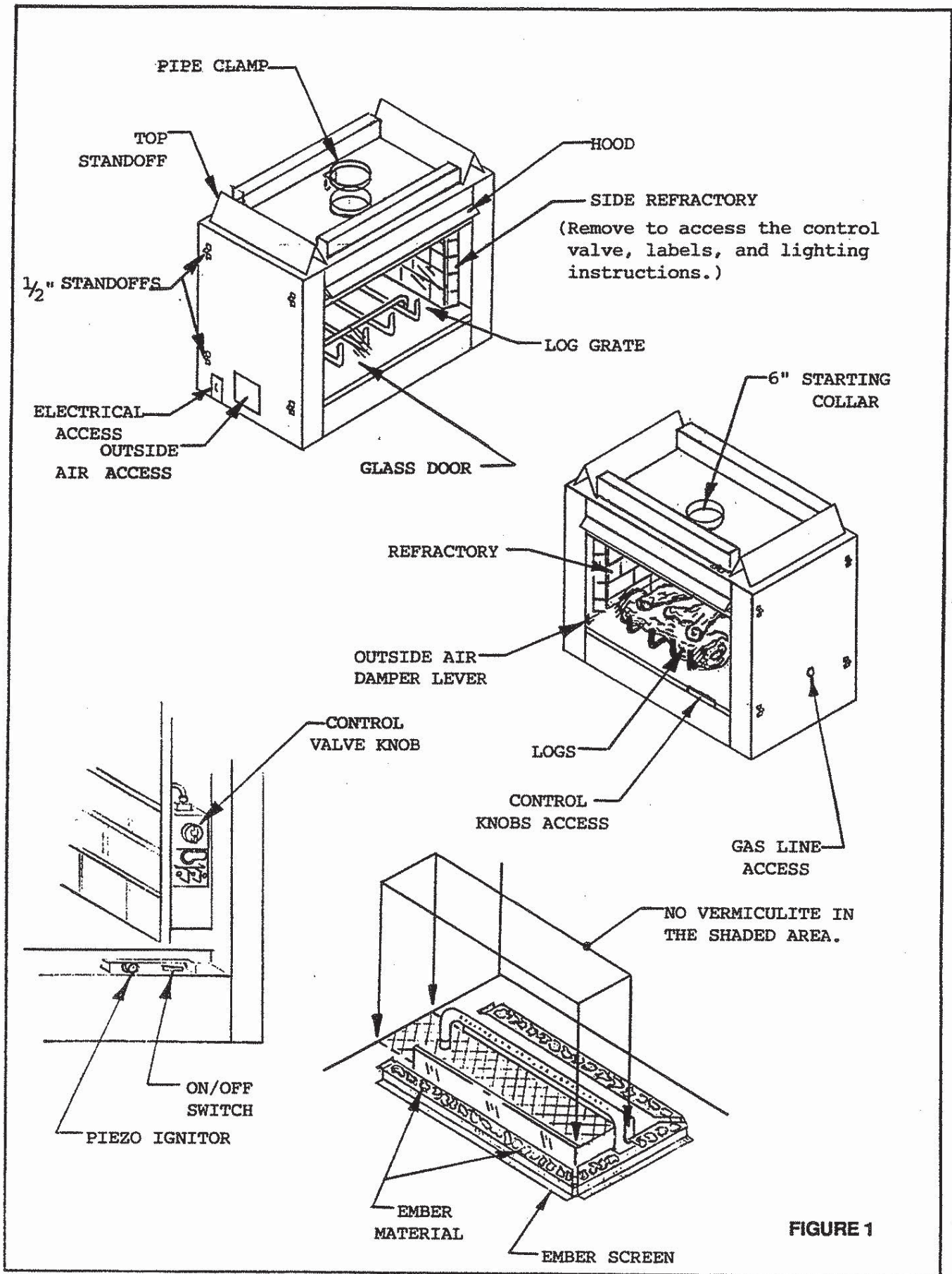


FIGURE 1

## 1.0 INTRODUCTION

Model ST-42GTV is a top-venting Vented Decorative Gas Appliance. It is designed to operate by drawing combustion air from either inside the living space or from outside the building with the use of an optional outside air kit Model AK-225. Exhaust gases are expelled to the outside of the building by using 6-inch B-type vent attached to the top flue vent collar of the unit. Model ST-42GTV **MUST** use a 6-inch B-type vent system. **NO** other vent system may be used.

**WARNING: THIS UNIT IS NOT FOR USE WITH SOLID FUEL.**

The control system for Model ST-42GTV is a millivolt type. It consists of a gas control valve/regulator, a standing pilot assembly, a thermopile, a piezo ignitor, a high temperature limit switch, an ON/OFF rocker switch, and a safety microswitch for the glass door on the gas control side of the unit. The controls are located inside the fireplace behind the glass door assembly. Access to this compartment is gained by removing the glass door and the small end refractory piece. See Figure 1.

**WARNING: DO NOT CONNECT 110-120 VAC TO THE GAS CONTROL VALVE OR CONTROL WIRING SYSTEM OF THIS UNIT.**

Installation must conform to local codes. In the absence of local codes installation must conform with the National Fuel Gas Code ANSI Z223.1 current (in the United States) or with the current Installation Code CAN/CGA-B 149 (in Canada). The appliance when installed must be electrically grounded in accordance with local codes; in absence of local codes, with the current National Electric Code ANSI/NFPA NO. 70 (in The United States) or with the current Canadian Electric Code (in Canada).

**NOTE: INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE APPLIANCE SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A PROFESSIONAL SERVICE PERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM CARPETING, BEDDING MATERIAL ETC. IT IS IMPERATIVE THAT THE UNITS CONTROL COMPARTMENT, BURNERS, AND CIRCULATING AIR PASSAGEWAYS BE KEPT CLEAN TO PROVIDE FOR ADEQUATE COMBUSTION AND VENTILATION AIR.**

Provide adequate clearances around air openings into the combustion chamber and allow accessibility clearance for servicing and proper operation. **NEVER OBSTRUCT THE FRONT OPENINGS OF THE FIREPLACE OR THE VENT CAP ON THE EXTERIOR OF THE HOUSE.**

Minimum clearances in inches to combustibles are: Sides 1/2, Floor 0, Top 3 (top and side clearances are defined by the standoffs). Minimum distance to the wall (parallel to the glass doors) is 24 inches. Minimum distance from the ceiling to the top front of the unit is 31 inches.

Minimum inlet gas supply pressure is 4.5 inches water column natural gas and 11.0 inches water column propane. Maximum inlet gas supply pressures is 10.5 inches w.c. natural gas and 13.0 inches w.c. propane. For the purpose of input adjustment, inlet gas supply pressure should be 7.0 inches w.c. natural gas and 11.0 inches w.c. propane and manifold pressure should be set at 3.5 inches w.c. and 10.0 inches w.c. respectively.

A 1/8 inch N.P.T. plugged tapping is provided on the outlet side of the gas control for a test gauge connection to measure the manifold pressure. Provisions must be made to attach a test gauge to a 1/8 - inch NPT plugged tapping immediately upstream of the gas supply connection to the appliance to measure inlet pressure.

The appliance and its individual shut off valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of 1/2 psig (3.45 kPa).

This appliance 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 (3.45 kPa).

## 2.0 INSTALLATION PRECAUTIONS

This Top Vent Gas Fireplace and its components are tested and safe when installed in accordance with this Installation Manual. Report to your Dealer any parts damaged in shipment - specifically check glass condition. The gas logs are in a separate package. Read all instructions before starting installation and follow these instructions carefully during installation to insure maximum benefit and safety. Failure to follow them will void your warranty and may present a fire hazard.

The Gas Technologies, Inc. warranty will be voided by, and Gas Technologies, Inc. disclaims any responsibility for, the following actions:

- Installation of any damaged fireplace or chimney component
- Modification of the fireplace or vent system
- Installation other than as instructed by Gas Technologies, Inc.
- Improper positioning of the gas logs or the glass door
- Installation and/or use of any component part not manufactured or approved by Gas Technologies, Inc., notwithstanding any independent testing laboratory or other party approval of such component part or accessory

ANY SUCH ACTION MAY POSSIBLY CAUSE A FIRE HAZARD.

Consult your local building codes.

THIS FIREPLACE MUST BE TOP VENTED WITH 6 INCH B-TYPE VENT PIPE AND MUST NEVER BE ATTACHED TO A CHIMNEY FLUE SERVING A SEPARATE SOLID FUEL BURNING APPLIANCE.

**WARNING:** THE GLASS DOOR ASSEMBLIES MUST BE IN PLACE ON THE FIREPLACE BEFORE THE UNIT CAN BE PLACED INTO SAFE OPERATION. UNDER NO CONDITIONS SHOULD THE UNIT BE OPERATED WITHOUT THE GLASS IN PLACE. THE FRONT GLASS DOOR MUST ACTIVATE THE MICROSWITCH.

**CAUTION:** Gas logs must be properly positioned or the fireplace will not function properly and may result in soot accumulation on the inside of the firebox.

To install the logs, remove the glass door assemblies from the fireplace. Place the bottom front and rear logs on the fireplace grates - positioning them to the outside of the grates. Place the middle left and right

logs in the cut-out areas of the bottom logs and the top left and right logs in the cut-out areas on top of the middle logs. See Figure 2 for proper log placement.

Open the bag of vermiculite and spread it evenly around the outside perimeter of the bottom of the firebox making sure not to block the air hole at the base of the burner.

**NOTE:** IT IS ESSENTIAL FOR PROPER UNIT OPERATION THAT THE VERMICULITE CONTAINED IN THE PLASTIC BAG BE SPREAD EVENLY ACROSS THE BOTTOM OF THE FIREBOX.

**CAUTION:** DO NOT BLOCK THE BASE OF THE BURNER WITH VERMICULITE AND DO NOT PLACE VERMICULITE IN THE AREA BETWEEN THE LOWER BURNER TUBES. SEE FIGURE 1.

**NOTE:** Carefully spread a single layer of dime size and shape pieces of ember material (found in a separate bag) uniformly over the upper portion of the lower burner ember shield (Figure 1). DO NOT COVER THE LOWER BURNER WITH VERMICULITE. Keep the unused ember material for the annual servicing of the fireplace.

Replace the glass door assemblies.

**WARNING:** THE GAS LOGS MUST BE POSITIONED SO THAT THERE IS NO FLAME IMPINGEMENT OF THEM. IF THE BURNER FLAME IMPINGES ON THE LOGS, REPOSITION THEM SO THAT NO IMPINGEMENT OCCURS.

Prior to first firing, read Operations Instructions section of this manual.

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

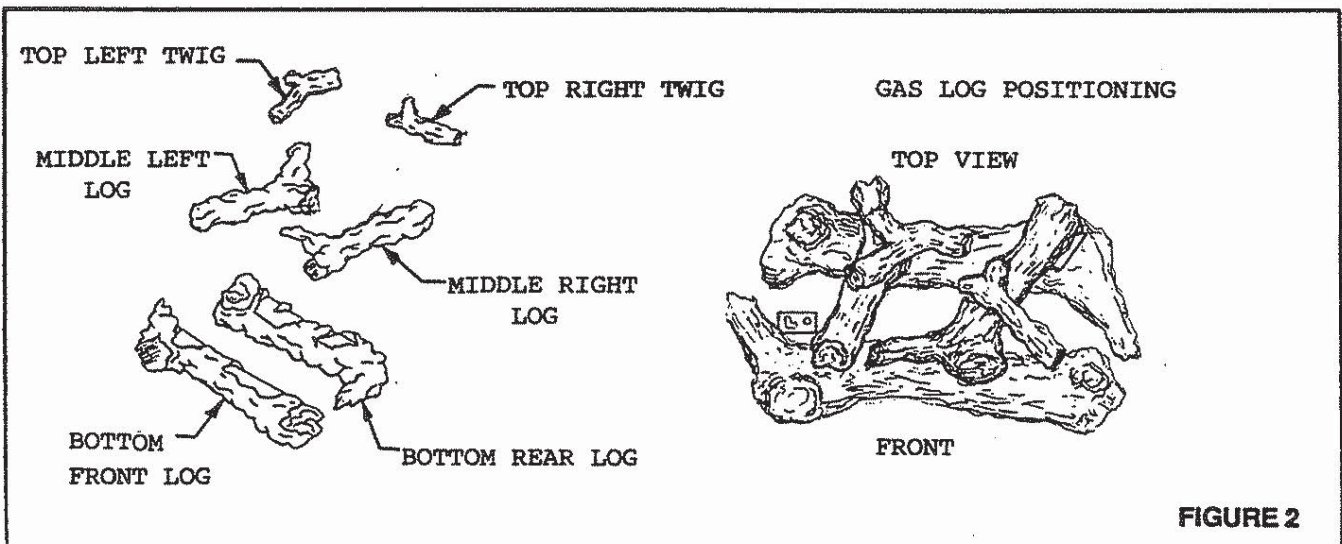
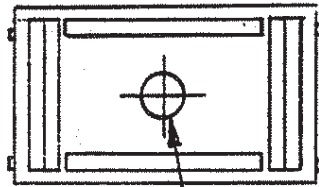


FIGURE 2



VENT COLLAR

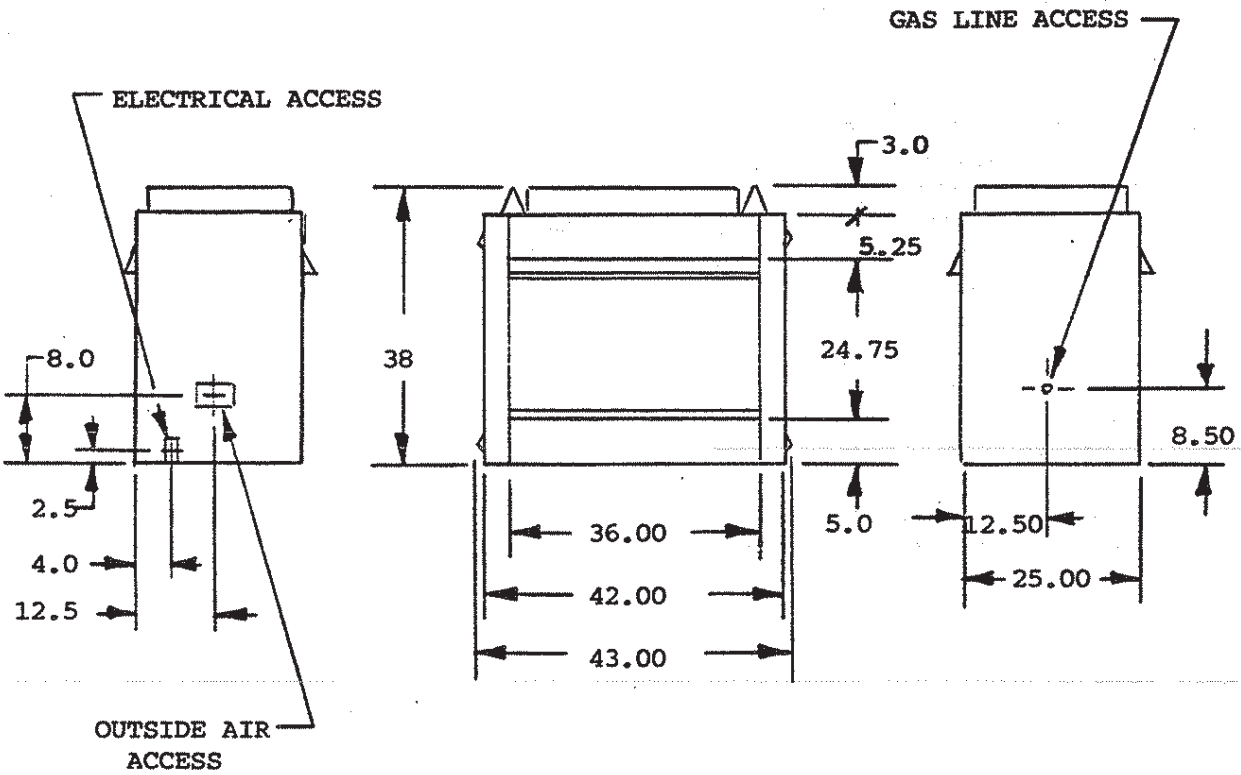


FIGURE 3

DUE TO HIGH TEMPERATURE, THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AREAS AND AWAY FROM FURNITURE AND DRAPERIES. CLOTHING OR FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.

### 3.0 INSTALLATION INSTRUCTIONS

In planning the installation for the fireplace it is necessary to determine where the unit is to be installed, the routing of the B-type vent system, and whether optional accessories (fan, remote control, wall switch and/or outside air kit) are desired. Gas supply piping should also be planned.

Model ST-42TV (with the use of the optional Outside Air Kit) can be installed in a bedroom (in the United States) which has a total volume of unconfined space appropriate to the particular installation. Refer to the National Fuel Gas Code ANSI Z223.1/NFPA 54 - (current edition) The Uniform Mechanical Code - (current edition), and Local Building Officials for the options allowed in obtaining an effective bedroom volume of unconfined space.

Model ST-42GTV can be installed in a bedroom (in Canada) if a thermostat (Model WH-STAT) is installed with the unit. Consult local code authorities. Detailed installation instructions for Model WH-STAT are included with the kit.

The fireplace can be mounted on any of the following surfaces:

1. A flat combustible surface.
2. A raised wooden platform
3. Four (4) corner supports.

(Example: Four (4) concrete masonry blocks) These supports must be positioned so they contact all four (4) perimeter edges on the bottom of the unit.

If the fireplace is installed directly on carpeting, tile, or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth of the unit.

Fireplace framing can be built before or after the fireplace is set in place. Framing should be positioned to accommodate wall covering and fireplace facing material. The fireplace framing should be constructed of 2 x 4 lumber or heavier. The the framing headers may rest on the fireplace standoffs. Refer to Figure 3 and Figure 4 for fireplace and framing dimensions. **CAUTION: MEASURE THE FIREPLACE AND VERIFY FRAMING AND FINISHING METHODS BEFORE FRAMING CONSTRUCTION BEGINS.**

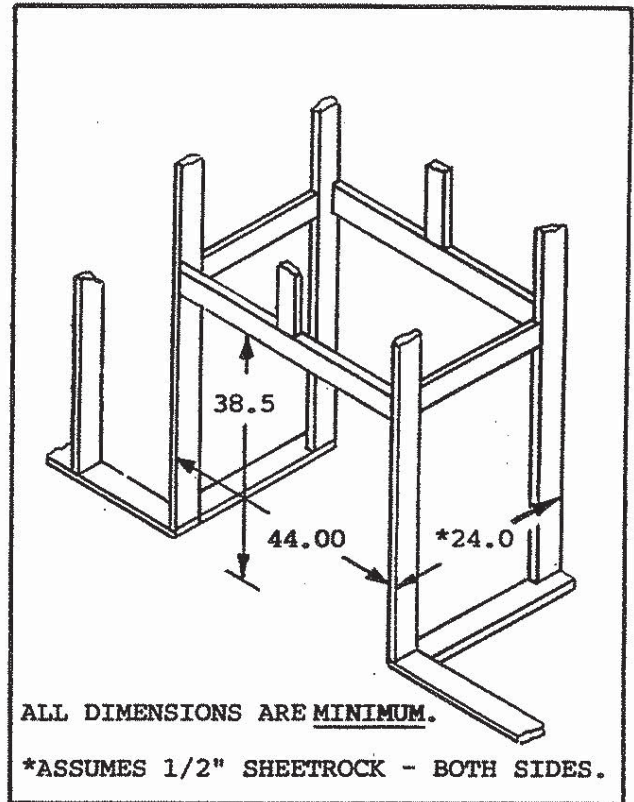


FIGURE 4

**WARNING:** If a chase for the fireplace is built, it must not be installed closer than the 1/2-inch spacers on the ends of the unit. These clearances from combustible materials to the B-Type vent pipe must be maintained from the top of the fireplace to the 8-foot ceiling height above the unit.

**NOTE:** Finish wall materials, such as sheetrock, can be placed flush with the front face of the fireplace front surround. Refer to Section 3.7 FINISHING.

### 3.1 INSTALLING THE B-TYPE VENT SYSTEM

#### 3.1.1 POSITIONING THE FIREPLACE

Determine the exact position of the fireplace so that the vent run can be planned. Using a level, make sure the fireplace is properly positioned and squared. The 1/2 - inch stand-offs on the ends of the fireplace may be positioned directly against a combustible wall.

#### 3.1.2 CONNECTING THE VENT SYSTEM COMPONENTS

Connect a 6 inch B-Type vent component to the flue outlet collar and secure it to the fireplace with the pipe clamp. See Figure 5.



Continue to add vent components, per vent manufacturer's installation instructions, until the vent run is completed.

It is recommended that a 2:1 vertical rise to horizontal run ratio be used for the vent system.

**NOTE: THE VENT TERMINATION MUST BE IN A VERTICAL POSITION**

**NOTE:** For bedroom installation in Canada Model ST-42GTV MUST NOT be vented into a Type-B vent system installed exterior to a building. The part of the vent system above the roof line can be exterior to the building.

Consult Local Building Code Officials and Codes for proper vent system installations.

**WARNING: THIS GAS FIREPLACE MUST NEVER BE VENTED BY CONNECTING TO A CHIMNEY FLUE SERVING A SEPARATE SOLID-FUEL BURNING APPLIANCE.**

### 3.2 PERMANENTLY ANCHORING THE FIREPLACE

To prevent the unit from shifting, the fireplace must be anchored. Two methods are possible: Use the nailing tabs as shown in Figure 6, or use the standoffs on the top of the fireplace. A nail may be driven through or a screw inserted through the framing header into the top standoffs as shown in Figure 6.

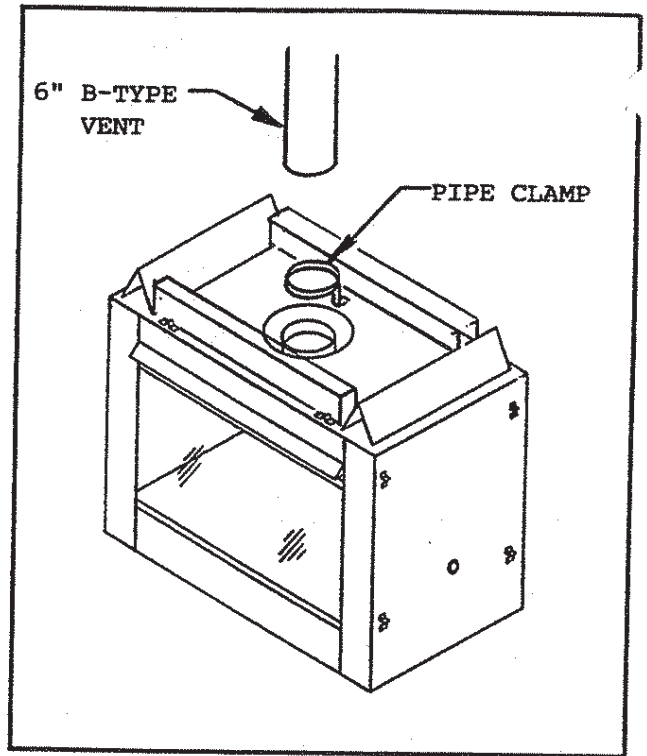


FIGURE 5

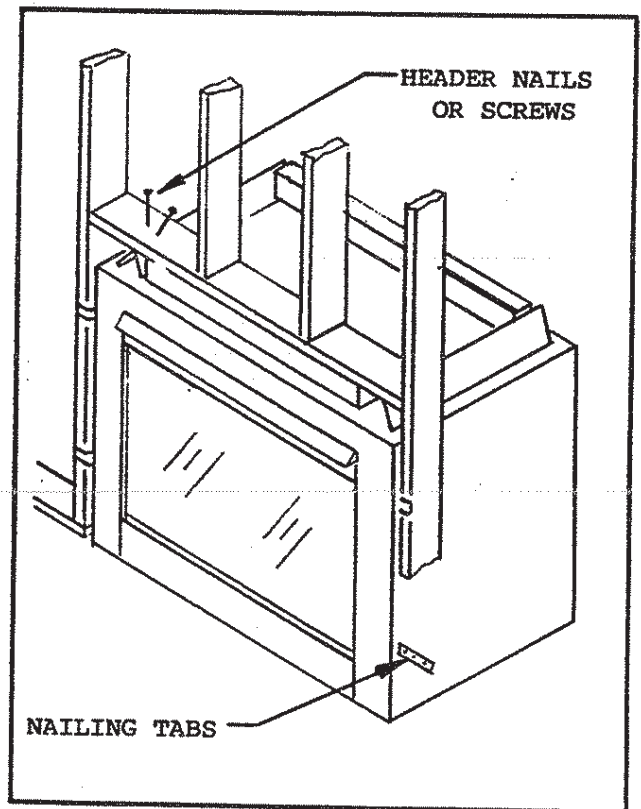


FIGURE 6

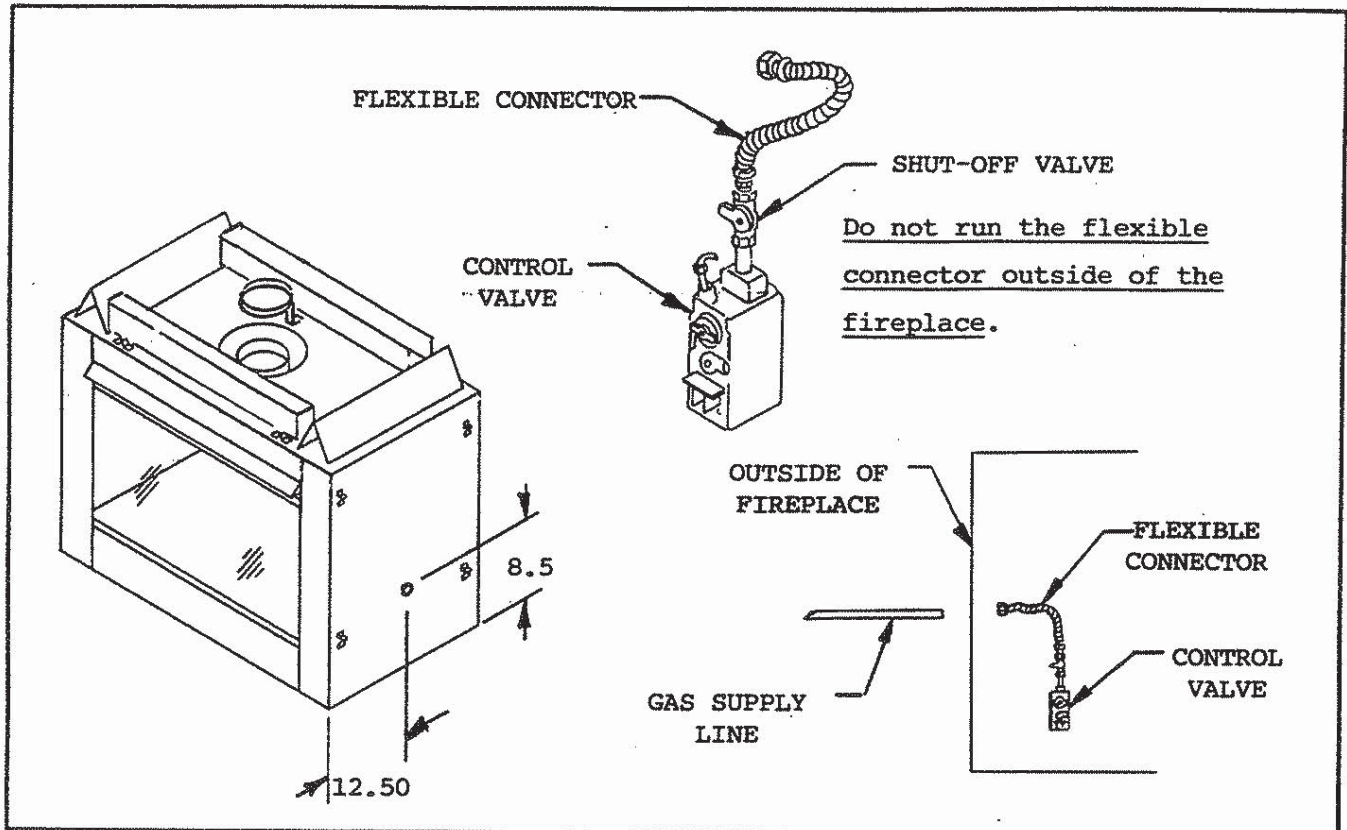


FIGURE 7

### 3.3 CONNECTING THE GAS LINE

The gas fireplace has a listed shut-off valve and a listed flexible gas connector (Model FLEX-12) installed to the supply side of the gas control valve. The gas supply line should be installed and connected to the flexible connector by a qualified service person in accordance with all prevailing building codes. Consult local building codes to properly size the gas supply line leading to the 3/8-inch flexible connector. A 1/8-inch NPT plugged tapping, accessible for a test gauge connection, should also be provided for in the gas supply line. Figure 7 shows the exterior gas line access hole in the outer casing of the fireplace and the control valve, shut-off valve, and flexible connector behind the rear panel inside the firebox.

Remove the rear panel while installing the gas supply line. Support the flexible connector when connecting the supply line and take care not to damage the control valve and the feed lines to the pilot and main burner. Replace the rear panel when the gas line hook-up is complete.

After the gas pipe installation is complete, check carefully all gas connections for leaks with a soap solution. **DO NOT USE AN OPEN FLAME.** Use insulation to repack the space around the pipe. This should be inserted from the outside of the fireplace and packed tightly to totally seal between the pipe and the outer casing.

**NOTE: THE GAS PIPE SHOULD NOT COME IN CONTACT WITH ANY WOOD STRUCTURES UNTIL IT HAS REACHED A POINT AT LEAST 1 INCH AWAY FROM THE FIREPLACE SIDE.**

**NOTE: THE GAS SUPPLY LINE SHOULD BE PURGED OF ANY TRAPPED AIR PRIOR TO THE FIRST FIRING OF THE UNIT.**

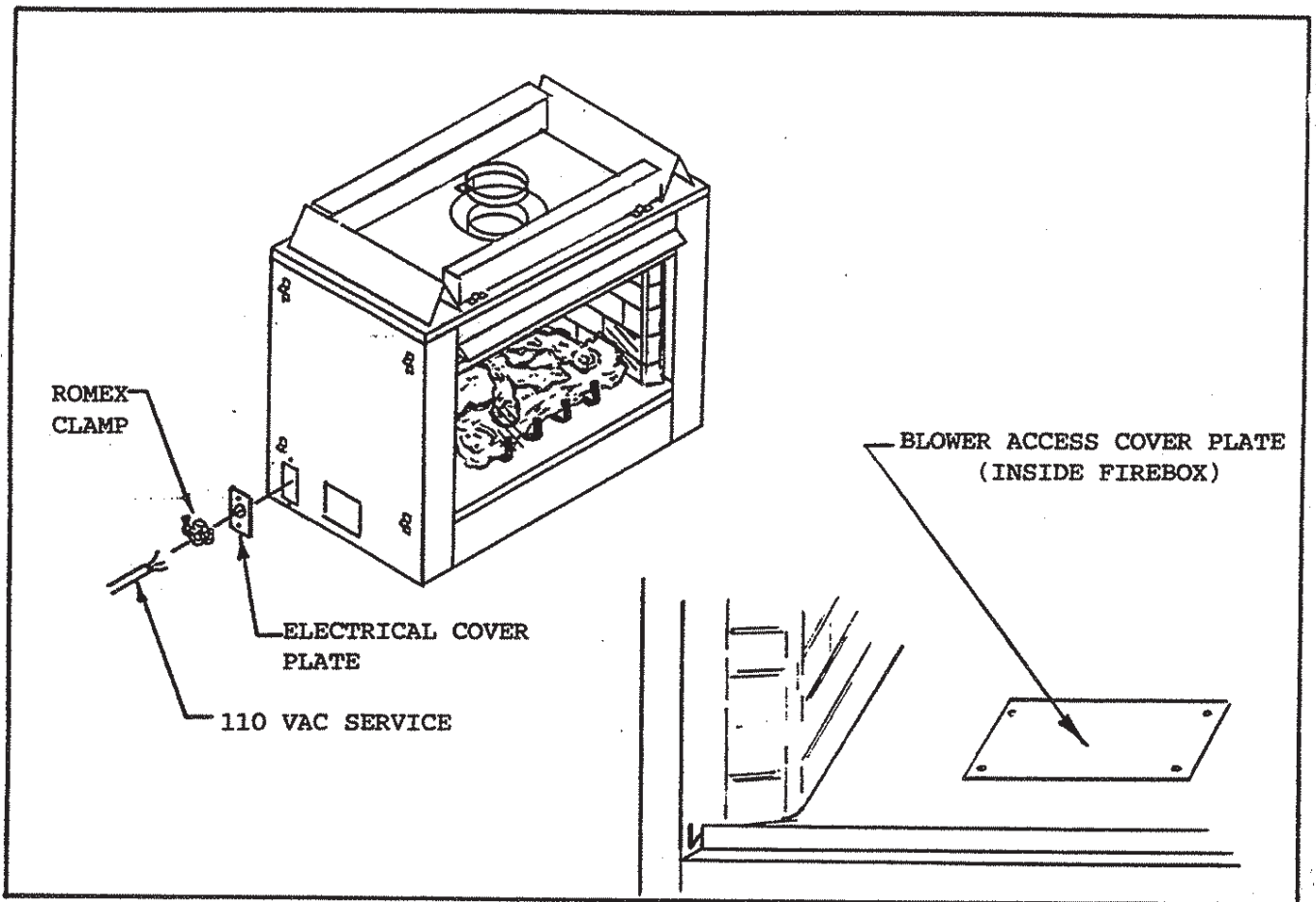


FIGURE 8

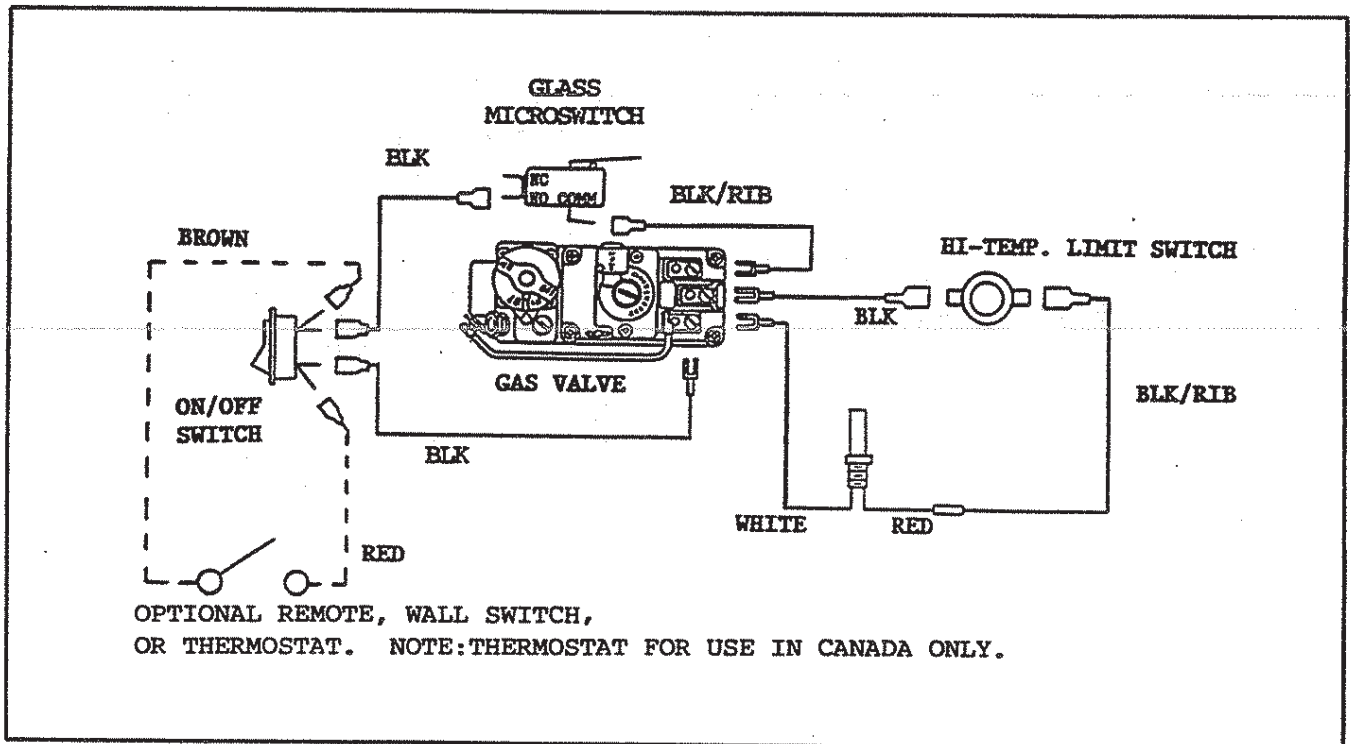


FIGURE 9

### 3.4 ELECTRICAL WIRING FOR OPTIONAL KITS

Model ST42-GTV gas fireplaces have factory installed electrical junction boxes which are used **ONLY** for wiring in optional kits.

An optional blower kit (GFK-165) and hand held remote control kit (RCH-09A) are available. Use of these options requires that the junction box (factory installed) be connected to 110 VAC service before permanently enclosing the fireplace. The access hole for the blower is found on the bottom firebox base pan of the unit. See Figure 8.

**NOTE:** The junction has an extension cord marked "CORD FOR BLOWER". This cord is to be used **ONLY** for plugging in the optional blower.

#### 3.4.1 INSTALLING ELECTRICAL SERVICE TO THE JUNCTION BOX

**WARNING: TURN ELECTRICAL POWER OFF AT THE CIRCUIT BREAKER BEFORE BEGINNING THIS INSTALLATION.**

1. Remove the electrical cover plate from the lower outer wrap of the fireplace. Remove the knock-out from the plate and attach the Romex clamp (screws to the outside).
2. Feed the electrical service wires through the Romex clamp and secure the wires to the clamp.
3. Using the wire nuts provided, connect the service wires to the junction box. The black wire to the black service wire, the white wire to the white service wire, and the service ground wire to the ground stud of the junction box.
4. Re-attach the cover plate to the outside of the fireplace.

Detailed instructions for the optional blower and the optional remote kits are included with each kit.

**WARNING: DO NOT CONNECT 110-120 VAC TO THE GAS CONTROL VALVE.**

### 3.5 WALL SWITCH WIRING

A Wall Switch Kit (WSK-21) for turning the fireplace ON/OFF is available. This kit does **NOT** require 110 VAC. Connect the low voltage wires from the wall switch to the red and brown pigtail wires from the ON/OFF rocker switch. These wires are labeled "FOR

REMOTE OR WALL SWITCH ONLY". Turn the unit's ON/OFF rocker switch to the "OFF" position to use the wall switch. See Figure 9 - Unit Wiring Diagram.

**NOTE:** POSITION THE WALL SWITCH SO THAT A MAXIMUM OF 25 FEET OF WIRING FROM THE SWITCH TO THE FIREPLACE IS USED.

**WARNING: DO NOT CONNECT 110-120 VAC TO THE GAS CONTROL VALVE OR CONTROL WIRING SYSTEM OF THIS FIREPLACE.**

### 3.6 INSTALLING OPTIONAL OUTSIDE AIR

The ST-42GTV unit is equipped to accept outside combustion air if desired. By using outside combustion air, the amount of room air that will be used for combustion will be reduced. It is recommended that the outside air system be used whenever practical. Detailed instructions for the Optional Air Kit Model AK-225, are included with the kit.

The outside air damper control is located at the lower left hand corner of the front side (control side) of the unit, behind the glass door. See Figure 10. Rotate the control rod clockwise to open the outside air damper.

**NOTE:** AK-225 Outside Air Kit is not for use in Canada.

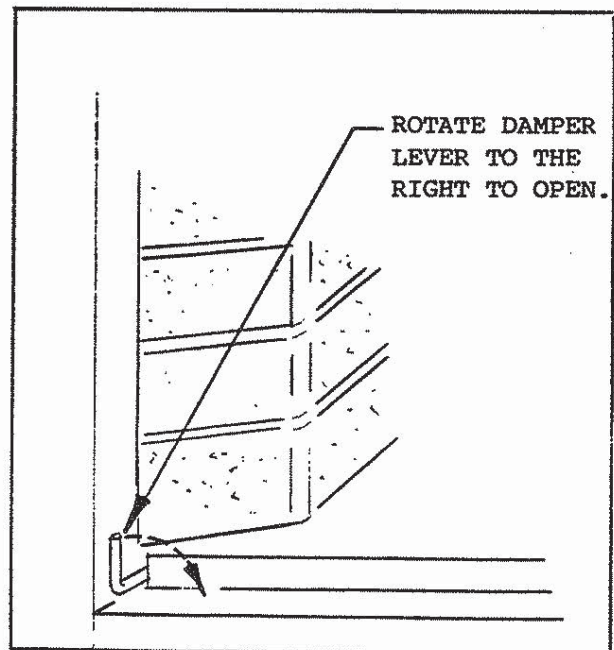


FIGURE 10

### 3.7 FINISHING

Finish the wall with the material of your choice. Do not install a combustible mantle or other combustible projection above the fireplace opening unless it is a minimum of 12 inches above the front edge of the heat deflector hood (Figure 11).

When finishing the fireplace NEVER OBSTRUCT OR MODIFY THE AIR INLET/OUTLET GRILLES IN ANY MANNER.

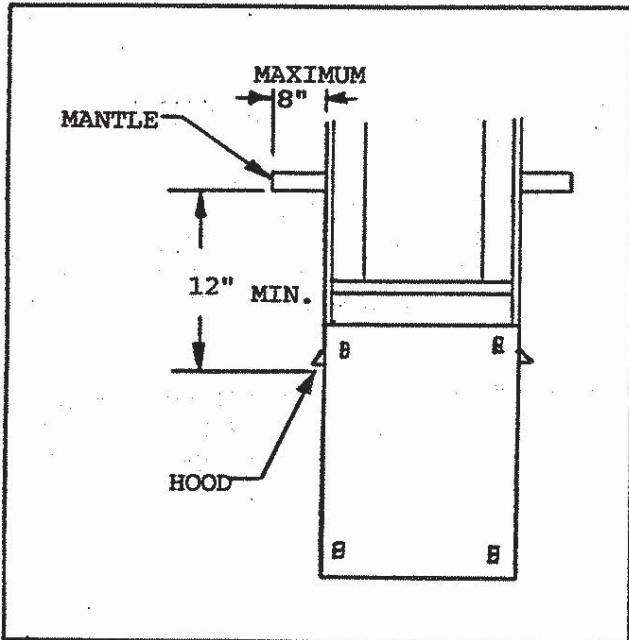


FIGURE 11

**CAUTION:** ALL JOINTS BETWEEN THE FINISHED WALL AND THE FIREPLACE SURROUND (TOP AND SIDES) CAN ONLY BE SEALED WITH NON-COMBUSTIBLE MATERIAL. ONLY NON-COMBUSTIBLE MATERIAL CAN BE APPLIED AS FACING TO THE FIREPLACE SURROUND. SEE FIGURE 12.

**WARNING:** THE HEAT DEFLECTOR HOOD MUST BE INSTALLED IN ALL APPLICATIONS.

### 3.8 HEARTH EXTENSION

While a hearth extension may be desirable for aesthetic reasons, it is not required for decorative gas appliances per ANSI or CAN/CGA Testing Standards.

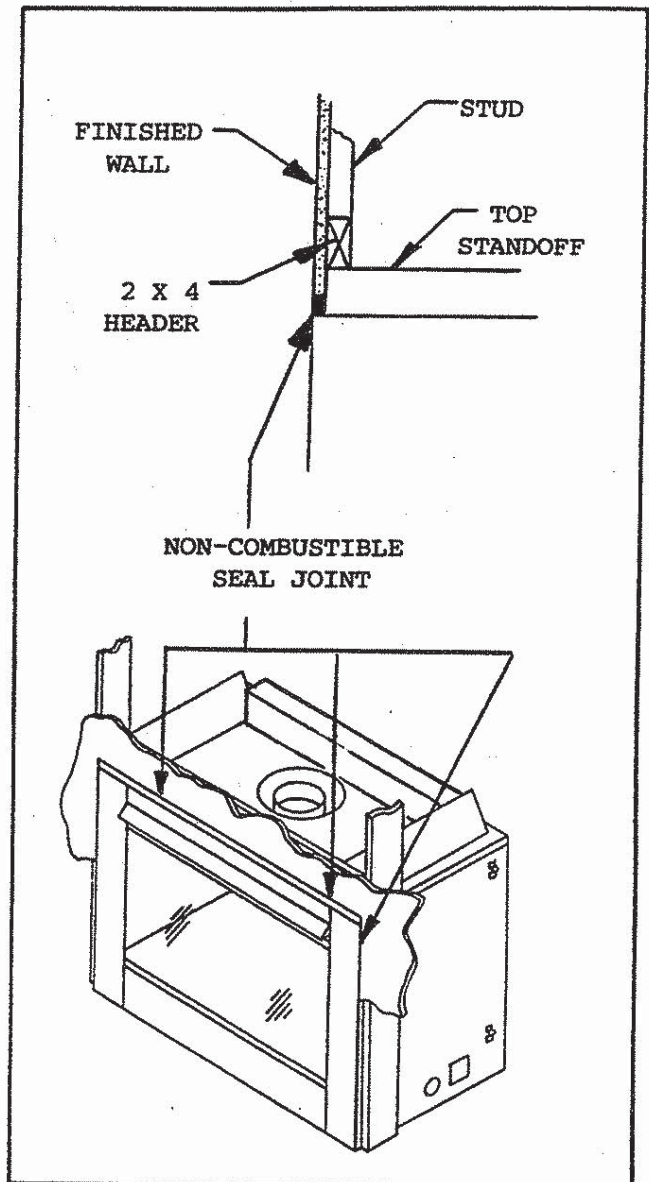
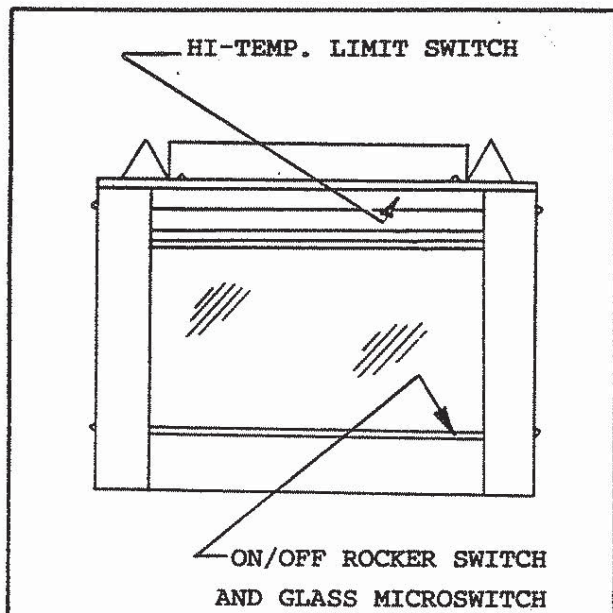
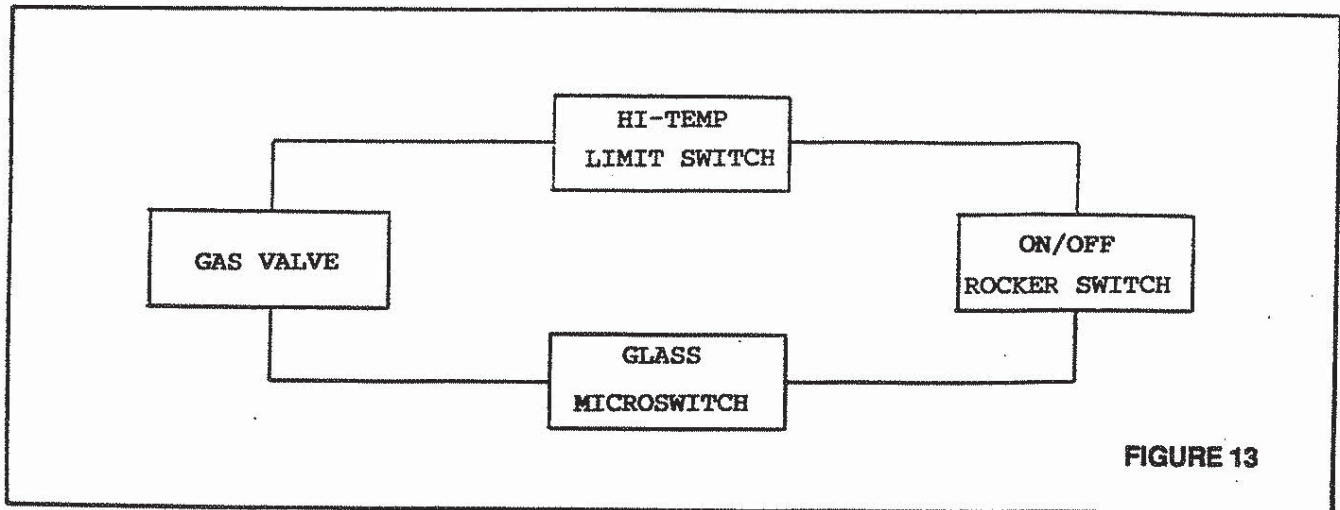


FIGURE 12

### 4.0 ELECTRICAL SAFETY SYSTEM

**WARNING:** DO NOT CONNECT 110-120 VAC CURRENT TO THE GAS CONTROL VALVE OR CONTROL WIRING SYSTEM OF THIS UNIT.

The MODEL ST-42GTV system is wired so the thermogenerator, when heated with the pilot light, will produce approximately 350 to 500 millivolts. This activates the gas control valve. Additionally, a high temperature limit switch is used for protection and will close the main gas valve should a high surface temperature condition be encountered (Figure 13). The unit is equipped with an ON/OFF rocker switch and a glass microswitch for the front (control side) glass door. See Figure 14 for switch locations.



**FIGURE 14**

## 5.0 OPERATING GUIDELINES AND MAINTENANCE INSTRUCTIONS

Upon completing the gas line connection, a small amount of air will be in the lines. When first lighting the pilot light, it will take a few minutes for the lines to purge themselves of this air. Once the purging is complete, the pilot and burner will light and operate as indicated in the instruction manual. Subsequent lighting of the appliance will not require such purging.

**CAUTION:** DURING THE INITIAL PURGING AND SUBSEQUENT LIGHTING, NEVER ALLOW THE GAS VALVE CONTROL KNOB TO REMAIN DEPRESSED IN THE "PILOT" POSITION WITHOUT PUSHING THE RED IGNITOR BUTTON AT LEAST ONCE EVERY SECOND.

When lit for the first time, the appliance will emit a slight odor for an hour or two. This is due to paint and lubricants used in the manufacturing process. Additionally, for the first few minutes after each lighting, vapor may condense and fog the glass and the flames may be blue. After a few minutes this moisture will disappear and within 15-30 minutes the flames should become yellow.

The fireplace may produce a noise, caused from metal expansion and contraction as it heats up and cools down. This noise is similar to one that a furnace or heat duct may produce and does not affect the operation or longevity of the fireplace.

Keep the control compartment, logs and burner area surrounding the logs clean by vacuuming or brushing at least twice a year.

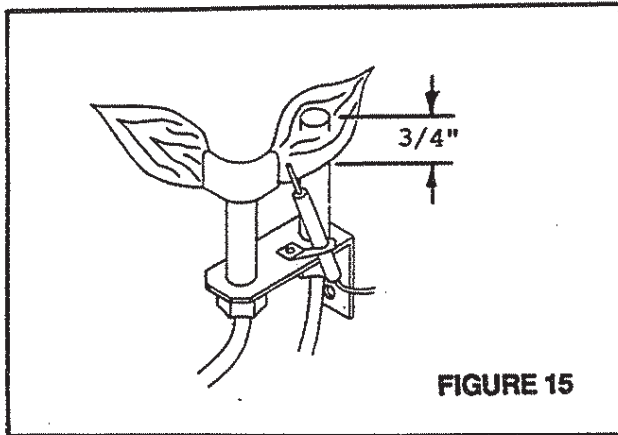
**CAUTION:** THE LOGS CAN GET VERY HOT - HANDLE ONLY WHEN COOL.

Always turn off gas to the pilot before cleaning. For relighting, refer to lighting instructions located behind the end refractory piece.

The appliance and venting system should be inspected before initial use and at least annually by a qualified field service person.

Always keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

Never obstruct the flow of combustion and ventilation air. Keep the front of the appliance clear of all obstacles and materials.



**FIGURE 15**

To obtain proper operation, it is imperative that the pilot and main burner flame characteristics are steady, not lifting or floating. Typically the top 3/4 inch at the pilot generator should be engulfed in the pilot flame. (Figure 15)

**WARNING: CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.**

**IMPORTANT: TURN OFF GAS BEFORE SERVICING APPLIANCE. IT IS RECOMMENDED THAT A COMPETENT SERVICE TECHNICIAN PERFORM THESE CHECKUPS AT THE BEGINNING OF EACH HEATING SEASON.**

Inspect the external vent cap on a regular basis to make sure that no debris is interfering with the air flow.

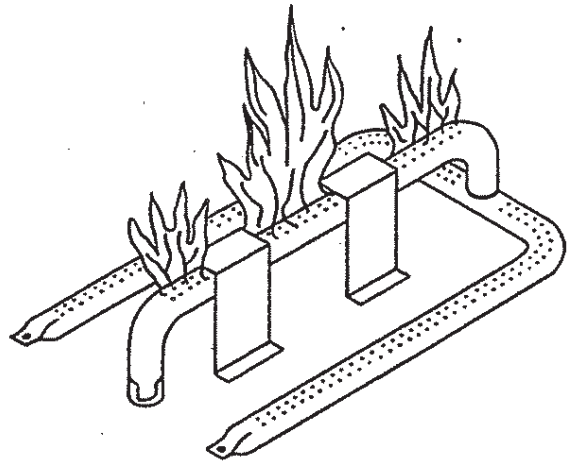
### 5.1 GLASS DOOR REMOVAL

1. To remove the glass door, lift it up and out away from the bottom glass retainers and lower it until the top glass edge is free of the top glass retainer.

### 5.2 CLEANING BURNER AND PILOT

In order to properly clean the burner and pilot assembly, turn off the gas to the unit and remove the logs exposing the burner and pilot assembly.

Clean all foreign materials from top of burner. Check to make sure that burner orifice is clean.



**FIGURE 16**

Visually inspect pilot periodically. Brush or blow away any dust or linen accumulations. If pilot orifice is plugged, disassembly may be required to remove any foreign material from orifice or tubing. When appliance is put back in service check burner flame patterns with Figure 16.

### 5.3 LOG REPLACEMENT

1. Remove the glass door assembly. (See Section 5.1)
2. The Log(s) can now be removed as required. Replace the log(s) as previously shown in Figure 2, Gas Log Positioning. Replace the glass assembly.

### 5.4 GLASS DOOR REPLACEMENT

1. Before replacing the glass door make sure the vermiculite material is spread evenly over the bottom of the firebox and the logs are properly positioned.
2. Slide the top edge of the glass into the top glass retainer on the unit, push the bottom of the glass door in until the bottom frame engages the bottom glass retainer and carefully lower the glass door.

**NOTE: THE FRONT GLASS DOOR MUST ENGAGE AND CLOSE THE GLASS MICROSWITCH FOR THE FIREPLACE TO OPERATE.**

**WARNING: THE GLASS DOOR ASSEMBLIES MUST BE IN PLACE ON THE FIREPLACE BEFORE THE UNIT CAN BE PLACED INTO SAFE OPERATION.**

## 6.0 SAFETY INFORMATION

### 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.

A. This appliance has a pilot. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

#### 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. Follow the gas suppliers instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Forced or attempted repair may result in a fire or explosion.

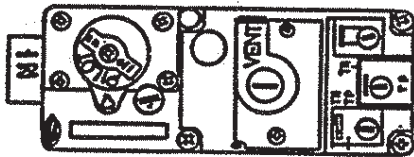
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the gas control system which has been under water.



## 7.0 LIGHTING INSTRUCTIONS

### LIGHTING INSTRUCTIONS

1. "STOP" Read the safety information above first.
2. To access controls, remove the glass door from the unit and the small end refractory piece.
3. Turn off all electric power to the junction box used for accessory kits.
4. Turn the valve control knob to the "OFF" position. To do this, you must turn the knob clockwise to the pilot position and then press in and continue turning clockwise to the "OFF" position.



GAS VALVE

5. WAIT FIVE (5) MINUTES TO CLEAR OUT ANY GAS. If you then smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to next step.
6. The pilot should not require accessing for lighting purposes. The pilot is located inside the combustion chamber. If it is necessary to access the pilot, follow the instructions in Section 5.1 for glass door removal.

THERMOPILE



PILOT BURNER

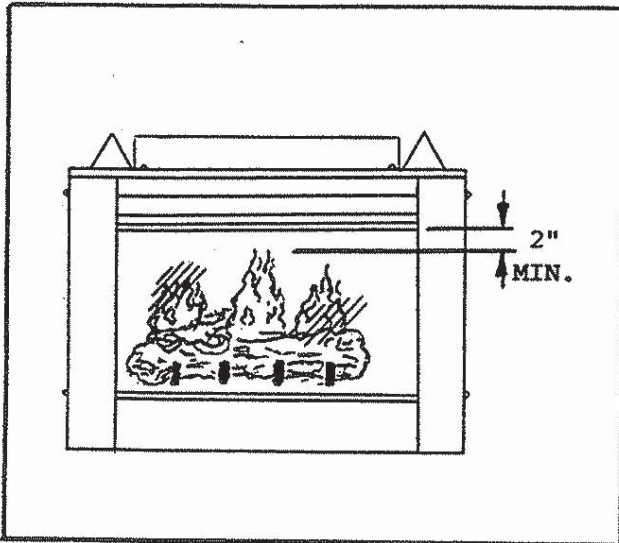
7. To put the control in the pilot position, turn the control knob counter-clockwise to the pilot position.
  8. To light the pilot depress the control knob and then depress the red piezo button until it makes a clicking sound. It may be necessary to repeat this step. If the pilot does not light after 10 seconds, go back to step 3. The control knob should be held down for a MINUTE after pilot ignition. If the pilot lights but will not stay lit after two tries, turn the gas control knob to the "OFF" position and call your service technician or gas supplier. IF the control knob does not pop out when released, STOP-shut off the gas supply to the fireplace control valve, and IMMEDIATELY call your service technician or gas supplier.
  9. After the pilot has been lit, the burner can be turned on by turning the knob counter-clockwise to the "ON" position. Turn the ON/OFF rocker switch to the "ON" position.
- WARNING:** Replace the small end refractory piece and the glass door on the unit before turning the burner on.
10. Turn on electric power to the junction box.

### TO TURN OFF GAS TO APPLIANCE

1. Turn the ON/OFF switch to "OFF".
2. Turn off all electric power to the appliance junction box if service is to be performed.
3. Remove the glass door from the unit and remove the small end refractory.
4. Turn the valve control knob clockwise to the "Pilot" position then depress knob and continue turning to "OFF" position.
5. Replace the refractory and glass door.

**NOTE:** After the unit has warmed up (i.e. approx. 15 min.), flame height should be slightly (about 2") below the top glass retainer (Figure 17). If the flame height is higher than this, adjustments must be made to prevent overheating the glass. Please contact your dealer or a qualified service person to replace the orifice or adjust the valve.

**NOTE:** THE TOP OF THE FLAMES SHOULD NEVER HIT THE TOP OF THE FIREBOX.



**FIGURE 17**

## LPG (PROPANE) WARNING

THE FOLLOWING WARNING APPLIES TO INSTALLATIONS USING L.P. (PROPANE) GAS:

**WARNING:** To avoid possible injury, fire, and explosion, please read and follow these precautions and all instructions on this appliance before lighting the pilot. This appliance uses L.P. (Propane) gas which is heavier than air and will remain at floor level if there is a leak. Before lighting, smell at floor level and/or use other means (such as using a soap solution on all piping and connections, using a gas detector, etc.) to check for gas leaks. **NOTE:** L.P. (Propane) gas can become odorless and **CANNOT** always be detected by smell. If you smell gas, detect a gas leak, or suspect that a gas leak exists, follow these rules:

1. Get all people out of building.
2. DO NOT light matches. DO NOT turn electric lights or switches on or off in area. DO NOT use an electric fan to remove gas from area. DO NOT use a telephone inside the building.

3. Shut off gas at L.P. tank outside of building.

4. Telephone gas company and fire department. Ask instructions.

Before hanging up, give your name, address, and phone number. DO NOT go back into building.

If your L.P. tank runs out of fuel, turn off gas at the appliance. After L.P. tank is refilled, appliance must be re-lit according to manufacturer's instructions. If the gas control has been exposed to WATER in any way, DO NOT try to use it. It must be replaced. DO NOT attempt repair on gas control or appliance.

Tampering is DANGEROUS and voids all warranties. Any component that is found to be faulty, must be replaced with an approved component.

## 8.0 HIGH ALTITUDE INSTALLATION

A.G.A. Design Certified units are tested and approved for elevations from 0-2000 feet. CGA approved units are certified for elevations from 0-4500 feet.

When installing this unit at an elevation above 2000 feet, (in United States) it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Input should be reduced 4 percent for each 1000 feet above sea level. Check with the local gas utility for proper orifice size identification.

When installing this unit at an elevation between 2000-4500 feet (in Canada) the input rating must be reduced by 10 percent.

When installing this unit at an elevation above 4500 (in Canada), check with local authorities.

Consult your local gas company for assistance in determining the proper orifice for your location.

## 9.0 TROUBLE SHOOTING - Model ST-42GTV

With proper installation and maintenance, your new Gas Fireplace should provide years of trouble-free service. If you do experience a problem, refer to the trouble shooting guide shown below. This guide will assist a qualified service person in the diagnosis of problems and the corrective action to be taken.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>I. Spark Ignitor will not light after repeated triggering of red button</b>	A. Defective Ignitor (no spark electrode).	1. Check for spark at electrode and pilot; if no spark and electrode wire is properly connected, replace ignitor.
	B. Defective pilot or misaligned electrode (spark at electrode).	1. Using a match, light pilot. If pilot lights, turn off pilot and trigger the red button again. If pilot lights, an improper gas/air mixture caused the bad lighting and a longer purge period is recommended. If pilot will not light, check gap at electrode and pilot - should be 1/8 inch to have a strong spark. If OK, replace pilot.
	C. No gas or low gas pressure.	1. Check remote shut off valves from fireplace. Usually there is a valve near the fireplace and sometimes there is a valve near the main. There can be more than one (1) valve between the fireplace and main.
		2. Low pressure can be caused by a variety of situations such as a bent line, too narrow diameter of pipe or even low line pressure. Check for kinked lines. If none, consult with plumber or gas supplier.
D. No L.P. in tank.	1. Check L.P. (Propane) tank. You may be out of fuel.	
<b>II. Pilot will not stay lit after carefully following lighting instructions.</b>	A. Defective pilot generator.	1. Check pilot flame. Must impinge on pilot generator. Clean and or adjust pilot for maximum flame impingement on generator.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
<p>III. Pilot burning, no gas burner, valve knob "ON", "ON/OFF" switch "ON".</p>	<p>A. "ON/OFF" switch or wires defective.</p>	<p>1. Check ON/OFF switch and wires for proper connections. Place jumper wires across terminals at switch - if burner comes on, replace defective switch. If OK, place jumper wires across switch wires at gas valve - if burner comes on, wires are faulty or connections are bad.</p>
	<p>B. Defective Valve.</p>	<p>2. Be sure wire connections from generator at gas valve terminals are tight and generator is fully inserted into pilot bracket.</p> <p>3. Check thermo-generator with millivolt meter. Take reading at "TH-TP" and "TP" terminals of gas valve. Should read 325 millivolts minimum while holding valve knob depressed in pilot position, pilot lit, and ON/OFF switch "OFF". Replace faulty generator if reading is below specified minimum.</p> <p>1. Connect the millivolt meter probes to the "TH-TP" and "TP" terminals on the gas valve. Turn green knob to pilot position, depress and light pilot light. If meter reading is greater than 325 m.v. after 30 seconds, the pilot generator is good. If pilot does not stay lit, the valve is defective. If the meter reading is less than 325 m.v. the thermo generator is defective.</p>
	<p>C. Open wire connection in pilot circuit.</p>	<p>1. Check wire continuity and connections in pilot circuit.</p>
	<p>D. Glass door does not fully depress microswitch.</p>	<p>1. Adjust glass so it fully depresses the microswitch. (Do not operate the unit with broken or cracked glass).</p> <p>2. If fully depressed, place jumper wires across connectors and if it allows you to re-ignite, the switch should be replaced. Do not operate unit with jumper wires in place. When jumper wires are in place and the unit won't re-ignite, you may have problems with the wiring or connectors.</p>

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
	B. Thermo generator may not be generating sufficient millivoltage. (325 m.v.)	<ol style="list-style-type: none"> <li>1. Recheck symptom #2.</li> <li>2. Pilot flame not physically close enough to thermo generator.</li> </ol>
	C. Defective valve.	<ol style="list-style-type: none"> <li>1. Turn valve knob to "ON", place ON/OFF switch to "ON". Check with millivolt meter at generator terminals. Millivolt meter should read greater than 100 m.v. If the reading is okay and the burner does not come on, replace the gas valve.</li> </ol>
	D. Plugged burner orifice.	<ol style="list-style-type: none"> <li>1. Check burner orifice for stoppage and remove.</li> </ol>
	E. Wall switch or wires defective.	<ol style="list-style-type: none"> <li>1. Follow corrective action in A.1 above; check switch and wiring. Replace where defective.</li> </ol>
IV. Frequent pilot outage problem.	A. Pilot flame may be too low or blowing (high), causing the pilot safety to drop out.	<ol style="list-style-type: none"> <li>1. Clean and adjust pilot flame for maximum flame impingement on thermo generator.</li> </ol>
V. Pilot and main burner go out while being in operation	A. High limit switch is defective or has reached it's maximum temperature.	<ol style="list-style-type: none"> <li>1. Allow unit to cool. Then repeat lighting instructions.</li> <li>2. If 1 above does not allow for ignition, check high limit switch. Place jumper wires across high limit switch. If you can re-ignite the pilot, your high limit switch is defective. Do not use fireplace until the high limit switch is replaced, as this is an important safety feature. If the unit does not light with jumper wires in place, the wires may be defective or the connectors are bad.</li> </ol>
	B. Door microswitch is not fully depressed or defective.	<ol style="list-style-type: none"> <li>1. Adjust glass so it fully depresses the microswitch. (Do not operate unit with broken or cracked glass).</li> </ol>

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
VI. Glass Soots	C. No L.P. in tank.	2. If fully depressed, place jumper wires across connectors and if it allows you to re-ignite, the switch should be replaced. Do not operate unit with jumper wires in place. When jumper wire is in place and the unit won't re-ignite, you may have problems with the wiring or connectors. 1. Check L.P. (propane) tank. You may be out of fuel.
	D. Bad thermo generator.	1. Replace if necessary.
	E. Improper vent cap installation.	1. Check for proper installation & freedom from debris or blockage.
	A. Flame impingement on logs.	1. Adjust the log set so that the flame does not impinge on it.
	B. Vermiculite around venturi.	1. Inspect the area at the base of the burner. It is imperative that NO material be placed in this area.
	C. Improper venturi setting.	1. Adjust the air shutter at the base of the burner.
VII. Flame burns blue and lifts off burner.	A. Insufficient oxygen being supplied.	1. Check to make sure vent cap is installed properly.  2. Check to make sure that the vermiculite has not been improperly placed down at the burner base.

## **LIMITED WARRANTY POLICY FOR GAS TECHNOLOGIES, INC. GAS FIREPLACES**

The limited two year warranty will not become effective until the completed warranty card has been mailed to GAS TECHNOLOGIES, INC., Savage, MN 55378.

This card must be mailed within 60 days of the fireplace installation.

Subject to the conditions set forth herein, Gas Technologies, Inc. extends the following limited warranty with respect to Gas Technologies, Inc. Decorative Gas Fireplaces.

If Gas Technologies, Inc. is satisfied that any part or portion of the fireplaces covered by this warranty is defective in material or workmanship under normal use and service as described in the operating instructions, Gas Technologies, Inc. will take the following actions:

1. Within the first year from the date of installation, Gas Technologies, Inc. shall, at its option, replace or repair any such defect in material or workmanship, at Gas Technologies, Inc. expense. GAS TECHNOLOGIES, INC. SHALL NOT BE RESPONSIBLE FOR ANY OTHER LABOR COSTS, OR EXPENSES, INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.
2. During the second year after the date of installation, GAS TECHNOLOGIES, INC. shall supply replacement parts at the current minimum wholesale price, but GAS TECHNOLOGIES, INC. SHALL NOT BE RESPONSIBLE FOR ANY LABOR, TRANSPORTATION, OR OTHER INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.
3. During the first six months after installation, GAS TECHNOLOGIES, INC. shall, at its option, replace or repair the glass door if operation is faulty (this does not include glass panels broken during shipping, misuse or careless handling). GAS TECHNOLOGIES, INC. SHALL NOT BE RESPONSIBLE FOR ANY LABOR, TRANSPORTATION OR OTHER INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. IF GLASS DOORS OTHER THAN FACTORY DOORS ARE USED, ALL WARRANTY AND LIABILITY ON THE FIREPLACE IS VOIDED.
4. All electrical, manual, and optional components or accessories found to be defective will be repaired or replaced without charge during the first year after installation.

Gas Technologies, Inc. may discharge its entire warranty liability by refunding the price of the product.

Products made by other manufacturers, sold with the fireplace or thereafter are not covered by this limited warranty. The use of other unauthorized components will make this warranty null and void.

This limited warranty will be void if the appliance is not installed by a qualified installer and according to the installation instructions. The limited warranty also is void if the fireplace is not operated, at all times, according to the operating instructions furnished.

EXCEPT TO THE EXTENT PROVIDED BY LAW, NO IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND NO IMPLIED WARRANTIES SHALL APPLY TO THE FIREPLACE AFTER THE ABOVE LIMITED WARRANTY HAS EXPIRED.

In states that do not allow limitations on how long implied warranty lasts, or do not allow exclusion of indirect damages, those limitations or exclusions may not apply to you. You may also have additional rights not covered in this limited warranty.

Gas Technologies, Inc. reserves the right to make changes at anytime, without notice, in design, material, specifications and prices and the right to discontinue styles and products.

## FOR MODEL ST-42GTV-HSI ADDENDUM FOR ELECTRONIC IGNITION SYSTEM

This unit requires 110VAC service in order to operate. Connection to house wiring should ONLY be done by a Qualified Electrician.

### FOR YOUR SAFETY READ BEFORE OPERATING HSI CONTROLS

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

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE Operating smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

#### WHAT TO DO IF YOU SMELL GAS

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

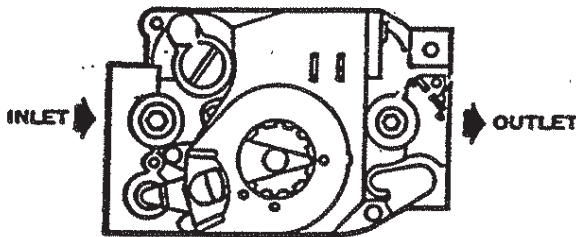
C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.



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




## LIGHTING INSTRUCTIONS ST-42GTV-HSI CONTROLS

1. **STOP!** Read the safety information on the "For Your Safety Read Before Operating" label.
2. Turn off all electric power to the appliance.
3. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.



4. Turn gas control knob clockwise to "OFF". 
5. Wait five (5) minutes to clear out any gas. If you then smell gas, **STOP!** Follow "B" in the safety information on the label located on the previous page. If you don't smell gas, go to next step.
6. Turn on all electric power to the appliance.
7. Turn gas control knob counter-clockwise to "ON". 
8. Flip ON/OFF rocker switch to "ON".
9. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call service technician or gas supplier.

### TO TURN OFF GAS TO APPLIANCE

1. Flip ON/OFF switch to "OFF".
2. Turn off all electric power to the appliance if service is to be performed.
3. Turn gas control knob clockwise to "OFF". Do not force. 

## OPTIONAL SWITCH WIRING MODEL ST-42GTV-HSI

An Optional Wall Switch (WSK-21) or Remote Control Switch (RCH-09A) may be wired to this appliance. The Wall Switch **DOES NOT** require 110-120 VAC electrical service connection. The remote control receiver **DOES** require 110-120 VAC which is obtained at the pre-installed junction box. Connect low voltage wires from the optional switch installed to the black wires (labeled Optional Wall Switch or Remote) found under the access panel. Set the unit's ON/OFF rocker switch to the "ON" position. Activate the optional switch installed to control the main burner of the unit. Detailed installation instructions for optional switches are found in each accessory kit.

**NOTE:** When using an optional switch in Model ST-42GTV-HSI, a humming sound from the control system transformer may be audible when the burner is turned off. This sound will stop if the ON/OFF rocker switch is turned to "OFF".

**WARNING:** DO NOT CONNECT 110-120 VAC TO AN OPTIONAL WALL SWITCH INSTALLED TO THIS FIREPLACE.

