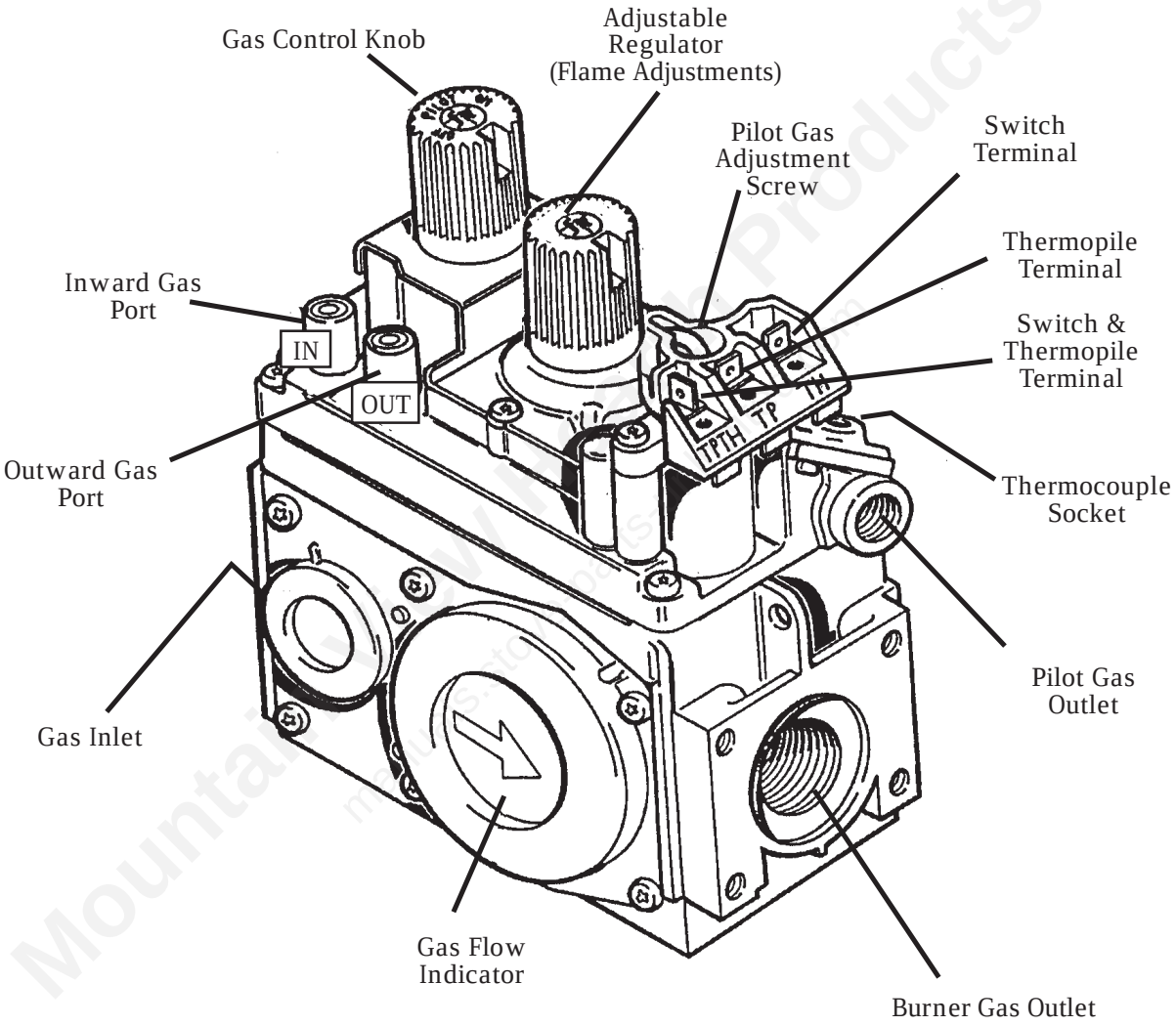
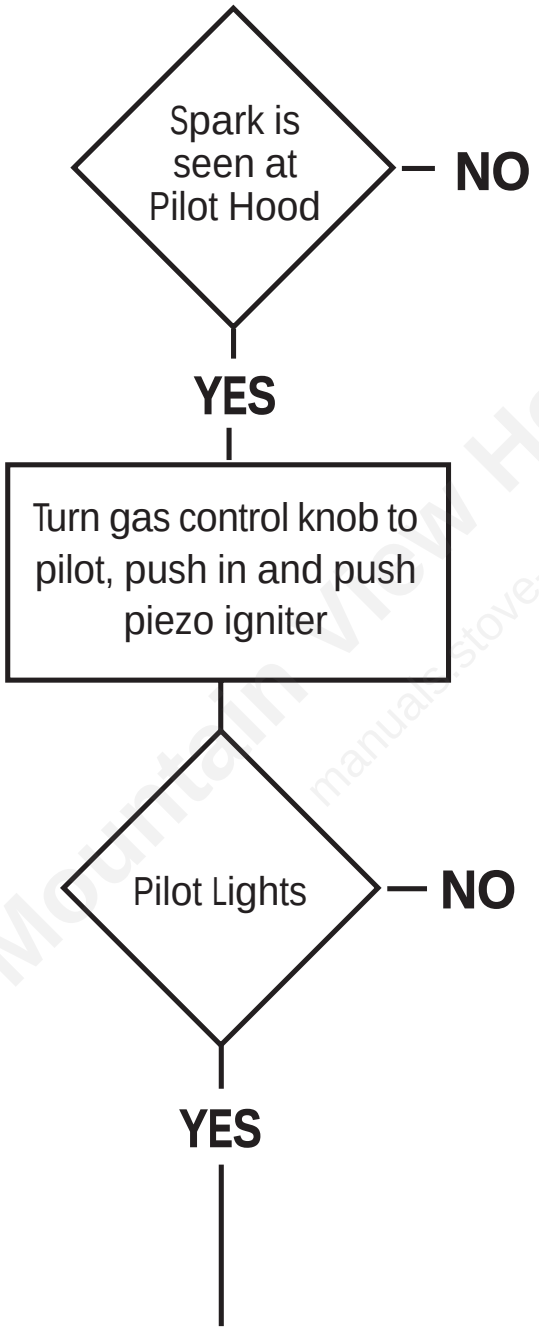
SIT Gas Control Valve



SIT Gas Control Valve

SIT
Gas Troubleshooting Flow Chart

Push The Piezo Igniter



- Check wire connections on the end of piezo igniter
- Check the electrode positioning - adjust as necessary
- Check for pinched or broken ignition wire (as it comes through floor)
- Check for a broken spark electrode base (porcelain)
- Replace piezo igniter

- Realign control knob-push in and try again
- With gas off - Hold a flame wand at Pilot Hood - Push in Pilot Control Knob

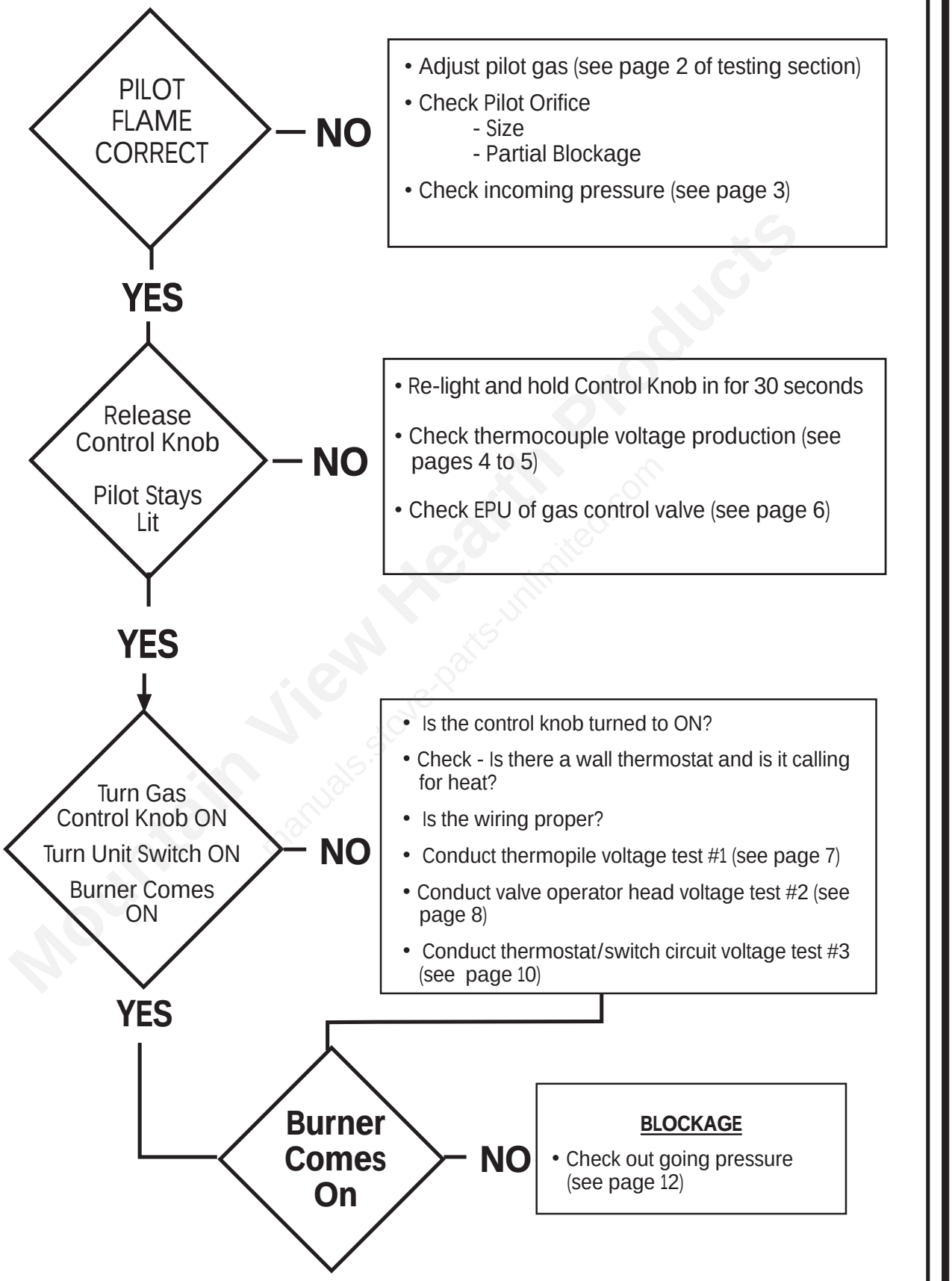
Flame Bends Away - Air in lines

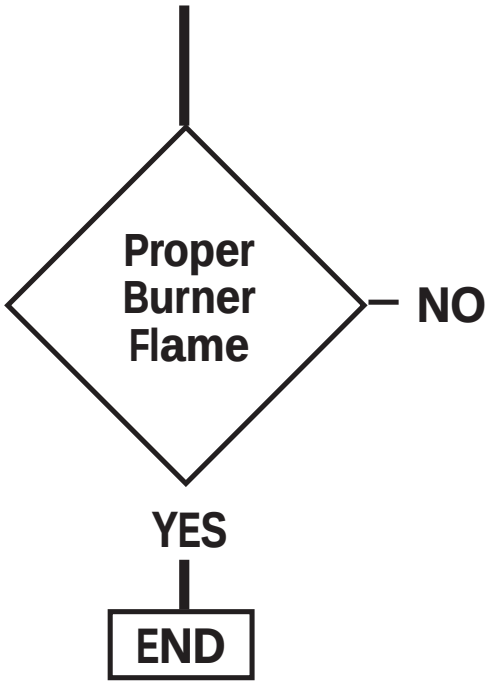
- Purge air through inlet pressure port (see page 1)

Flame Does Not Bend Away -
No Gas Flow

- Check if Pilot Adjustment Screw is closed
- Check for closed gas shut off(s)
- Verify gas inlet supply (see page 1& 3)

- Check pilot orifice for blockage
- Check pilot tube for blockage
- Replace valve

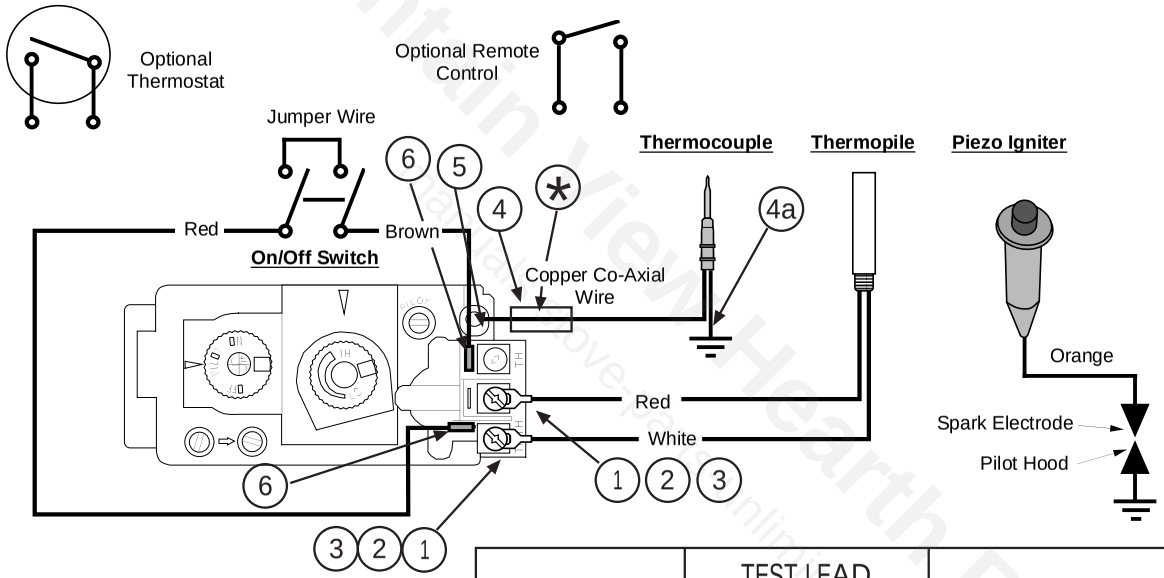




- Check regulator to to make sure it is appropriate for type of fuel
- Check proper orifice size
- Check incoming pressure (see page 3)
- Check outgoing pressure (see page 12)
- Check for partial blockage of burner
- Replace gas control valve (bad diaphragm)

Testing Direct Vents Using A SIT Gas Control

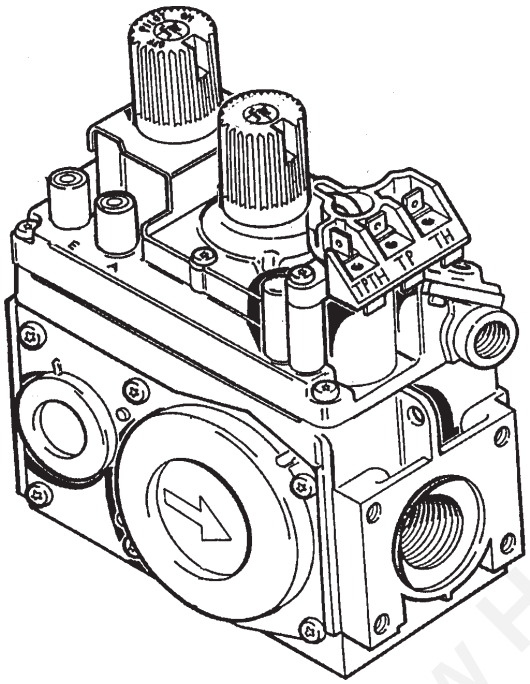
Wiring Diagram



* Thermocouple Adaptor

TESTING	TEST LEAD PLACEMENT	READINGS	REFERENCE PAGE
THERMOPILE	(1) - (1)	300 MV or Greater	7
INTERNAL VALVE	(2) - (2)	Minimum 225 MV - But Not Equal or Greater than Test (1) - (1)	8
THERMOSTAT CIRCUIT	(3) - (3)	145 MV or Greater-But Not Equal To (1) - (1)	10
THERMOCOUPLE	(4) - (4)	Minimum 6 MV	4-5
EPU	(5) - ⏚	Continuity	6
SWITCH CIRCUIT CONTINUITY	Disconnect (6) - (6) and Test Wire	Continuity	11

SIT Gas Control Valve



- Millivolt gas valve
- Used on newer Travis gas appliances
- Not used with any older B-Vented appliances
- Is modulating remote compatible
- Contains a pilot side and burner side operation

- Operation head coil resistance
  2.25 OHMS
  ± .5 OHMS

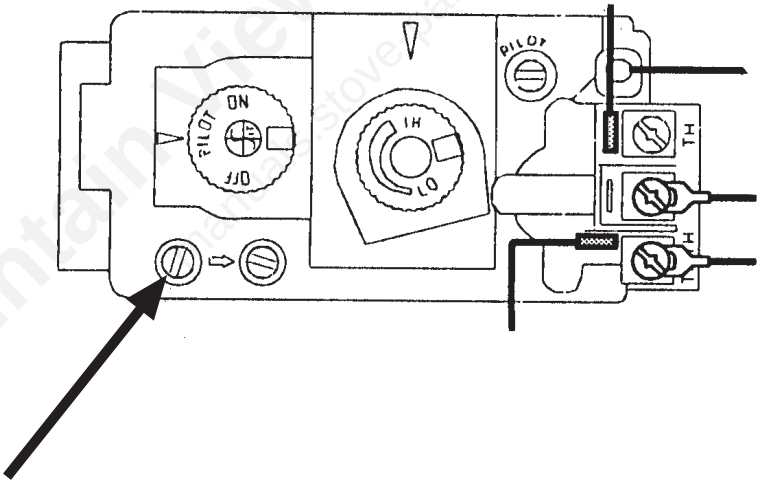
- EPU coil resistance
  .018 OHMS
  ± .003

Pilot
Does Not
Light

Purging Air From Gas Supply Lines

SIT Gas Control Valve

- Loosen inward pressure tap 2-3 turns
- Leave open until air is purged
- Tighten pressure tap



- Loosen pressure tap 2-3 turns
  (No cover cap)

Pilot Flame Size Is Not Correct

SIT Pilot Flame Adjustment

- No cover cap screw (Uses Double O Ring)
- Turn Adjustment Screw

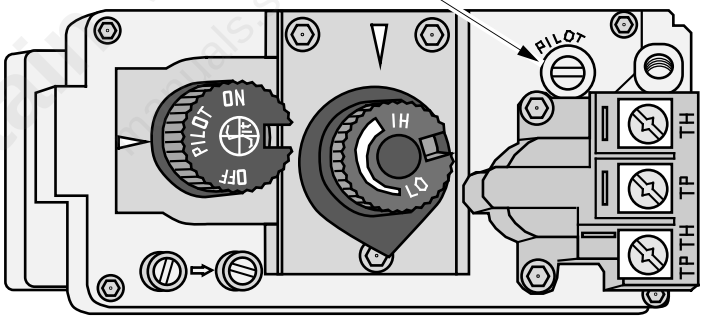
SMALLER FLAME

LARGER FLAME

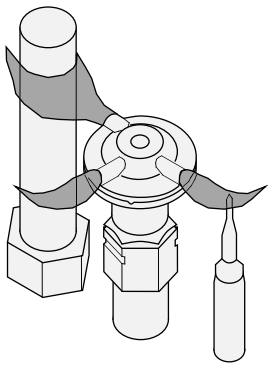
- Pilot Flame Should Be A Soft Blue Flame With Good Themocouple/Thermopile Engagement

To adjust the pilot flame, turn this screw clockwise to lower the flame/counter-clockwise to raise the flame.

Standard Screwdriver



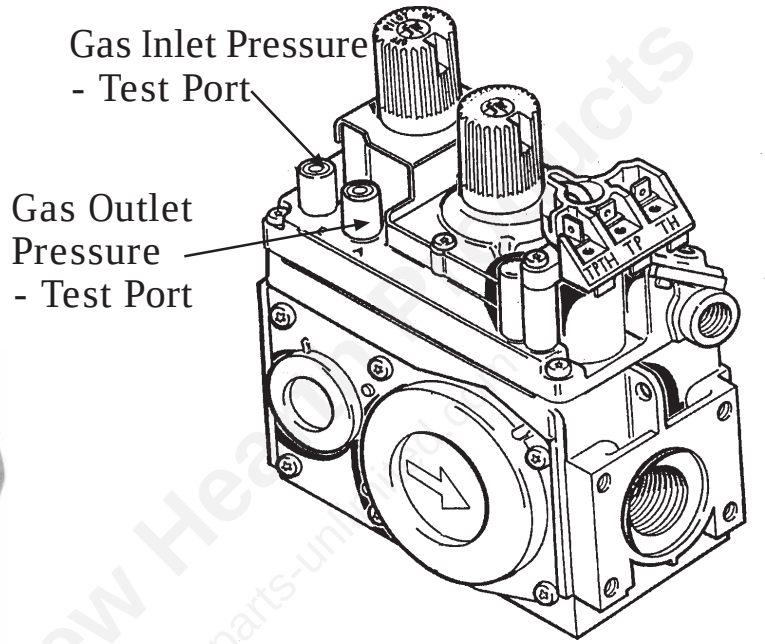
The pilot flame must contact the thermocouple and thermopile. Adjust the pilot flame up or down as necessary.



Burner Does Not Have Proper Flame

Pilot Flame Not Correct

Measuring Incoming Gas Pressure



SIT Control Valve

Digital Pressure Gauge

1) Zero out digital pressure gauge
2) Loosen input pressure tap (about two or three turns)
3) Slip pressure hose over the inlet port
4) Light the pilot
5) Turn control knob to ON
6) Turn ON the main burner (high)
7) Read pressure (see chart)

Then

8) Turn OFF burner
9) Turn control knob to OFF
10) Remove pressure hose
11) Tighten pressure port screw

Min. Input Pressure

NG	LP
7 W.C.	11 W.C.

With Main Burner ON

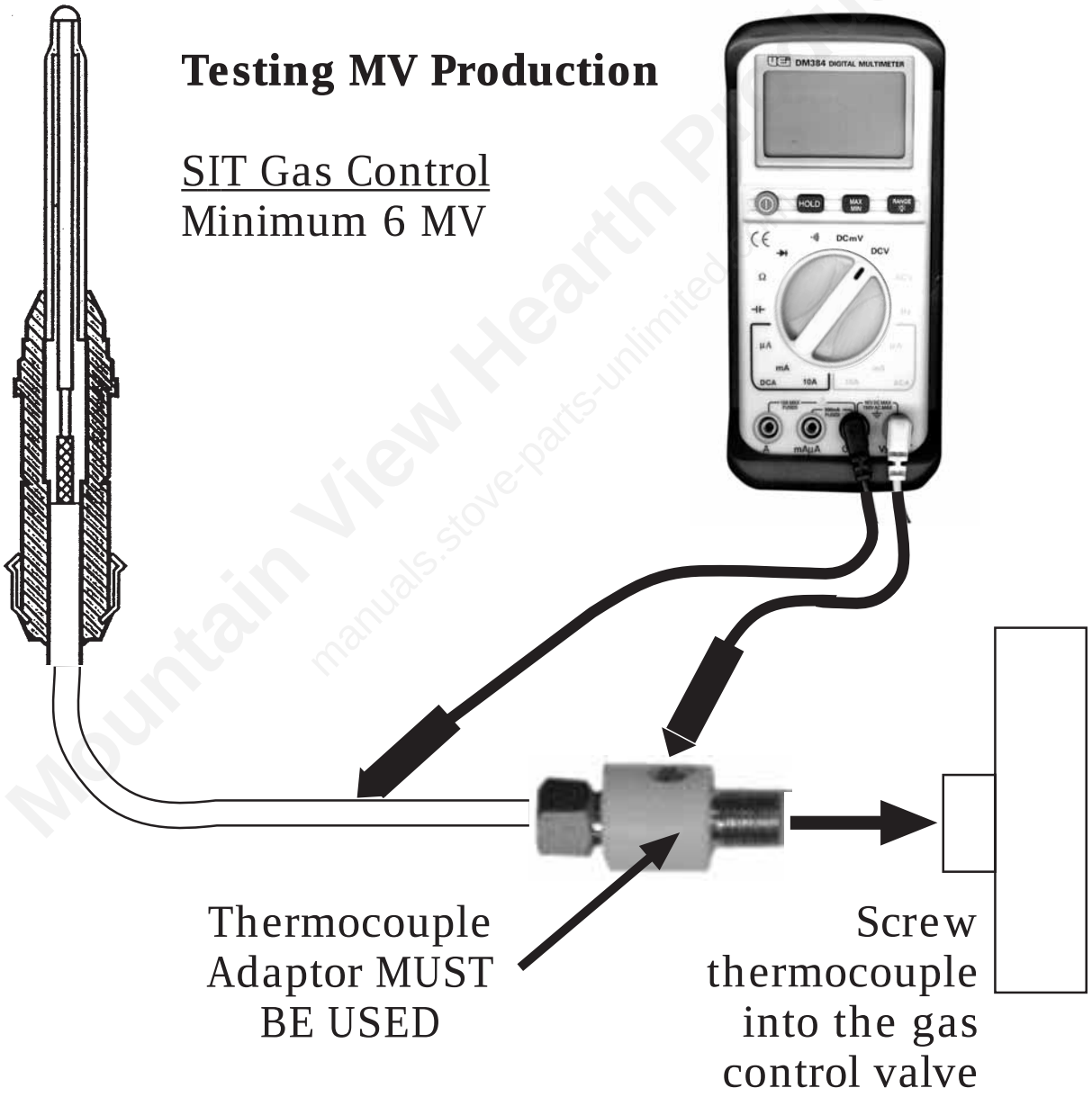
Pilot Does Not Stay Lit

Testing Thermocouple

Voltage On A SIT or RobertShaw Gas Control Valve

Testing MV Production

<u>SIT Gas Control</u>
Minimum 6 MV



Pilot Does Not Stay Lit

Testing Thermocouple

Voltage On A SIT Gas Control

Minimum 6 MV

To Valve Body

To Solder Joint

Brown Wire Delivering TC Voltage to the EPU

Back of SIT Gas Control

EPU Electromagnetic Power Unit

Pilot Does Not Stay Lit

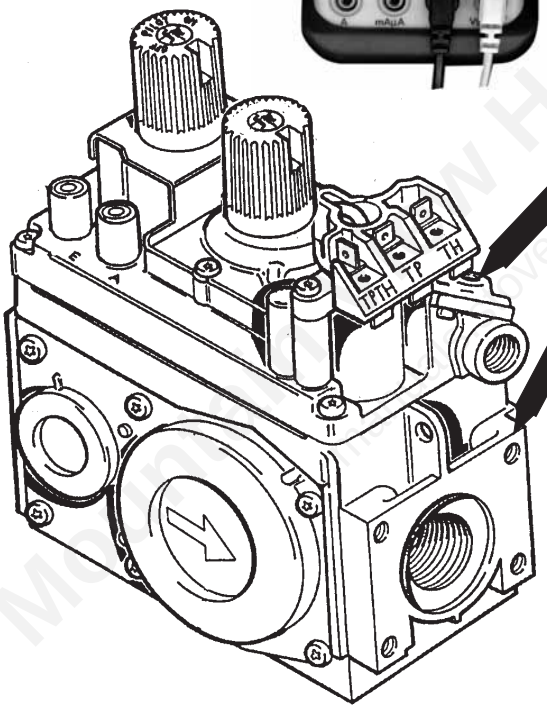
Testing Pilot Coil (EPU) for Continuity

SIT Control Valve

1. Socket Center to any ground point*

or

2. Ground to solder joint on the bottom of the valve**- Disconnect Thermocouple from valve



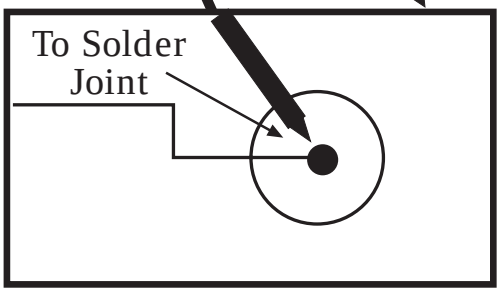
1. EPU Coil Continuity Test*

* Make sure your test lead does not touch the side of the socket

2. EPU Coil Continuity Test*

** Disconnect Thermocouple From Unit

To Valve Body



Back of SIT Gas Control

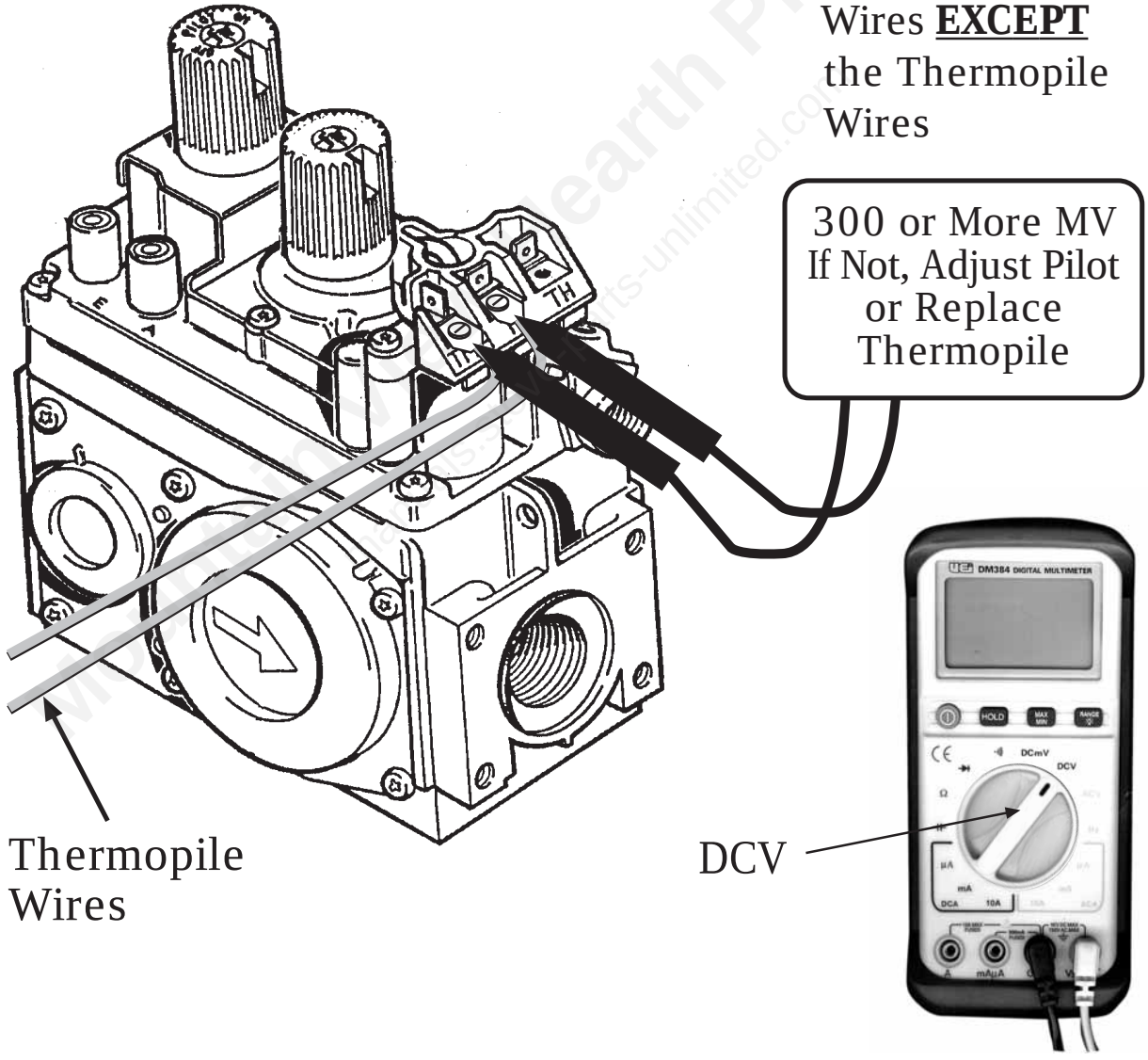
Burner Does Not Light

Voltage Testing

Thermopile Test 1

Control Knob In Pilot Position

1. Pilot Lit for Approximately 3 Minutes
2. Disconnect All Wires **EXCEPT** the Thermopile Wires

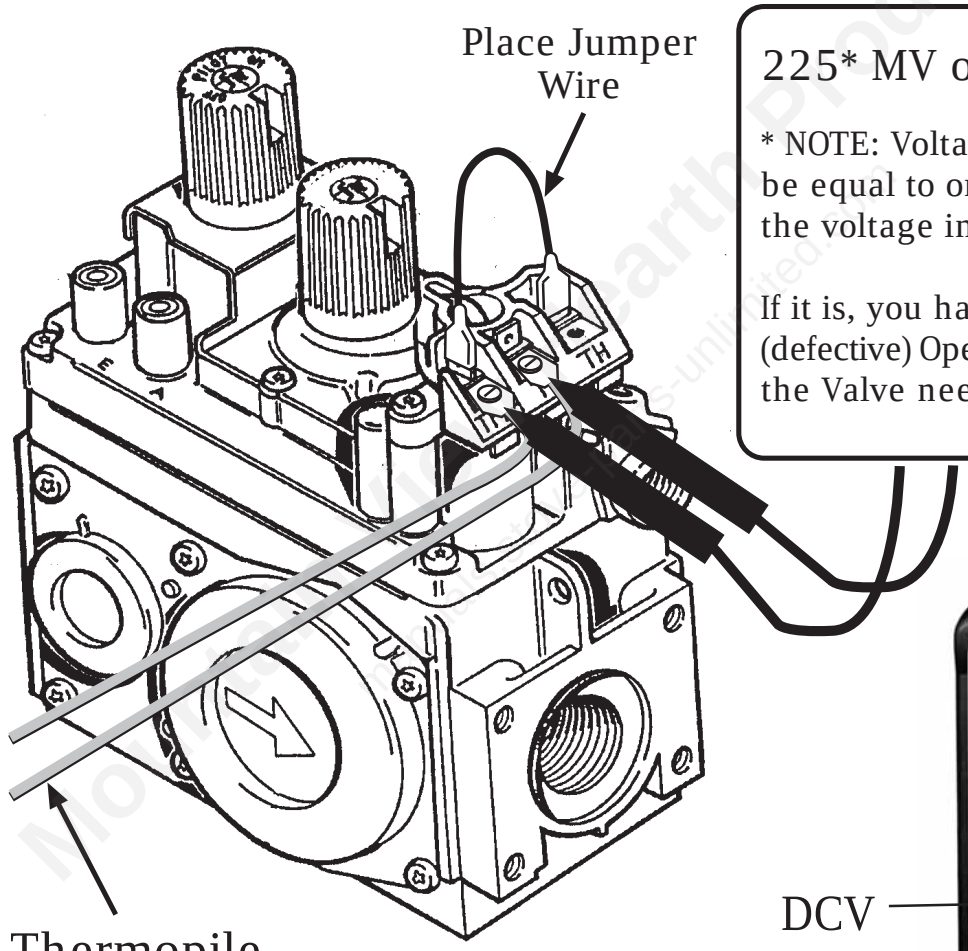


Burner Does Not Light

Voltage Testing

Operator Head Test 2

Control Knob In Pilot Position



225* MV or Greater

* NOTE: Voltage should not be equal to or greater than the voltage in Test # 1

If it is, you have an open (defective) Operator Head and the Valve needs replacing

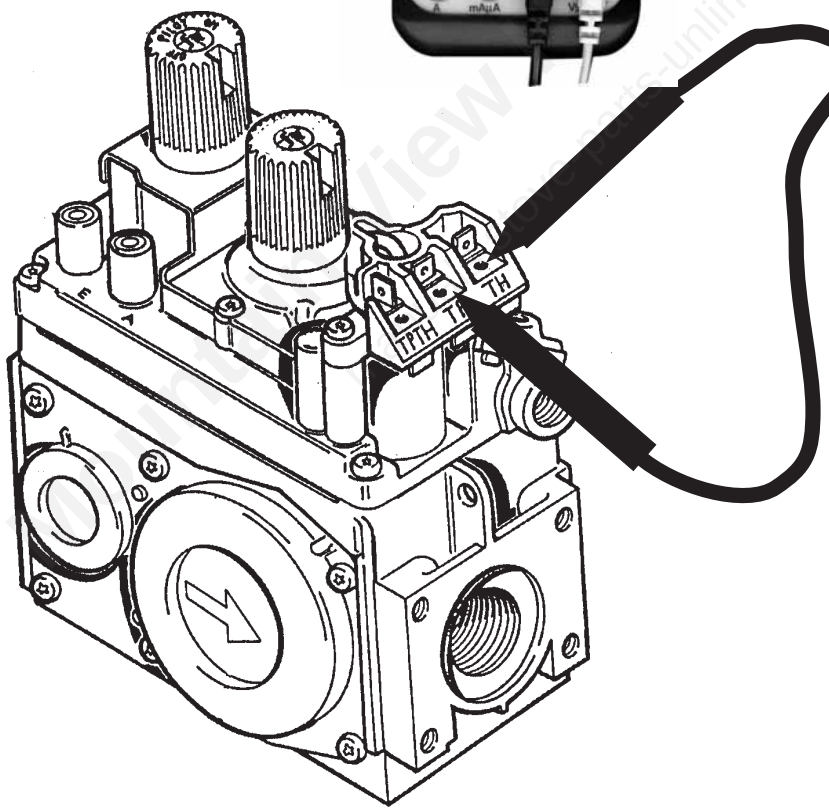
DCV

* If less than 225 MV, this indicates Operator Head has too much resistance - replace Gas Control Valve

(Conduct a resistance test on page 9)

Coil Operator Head Test for Continuity

SIT Control Valve



- TP to TH Terminals

Head Coil Continuity Test
2.25 OHMS ± .5 OHMS

NOTE: If the voltage on Test #2, page 8, is less than 225 MV

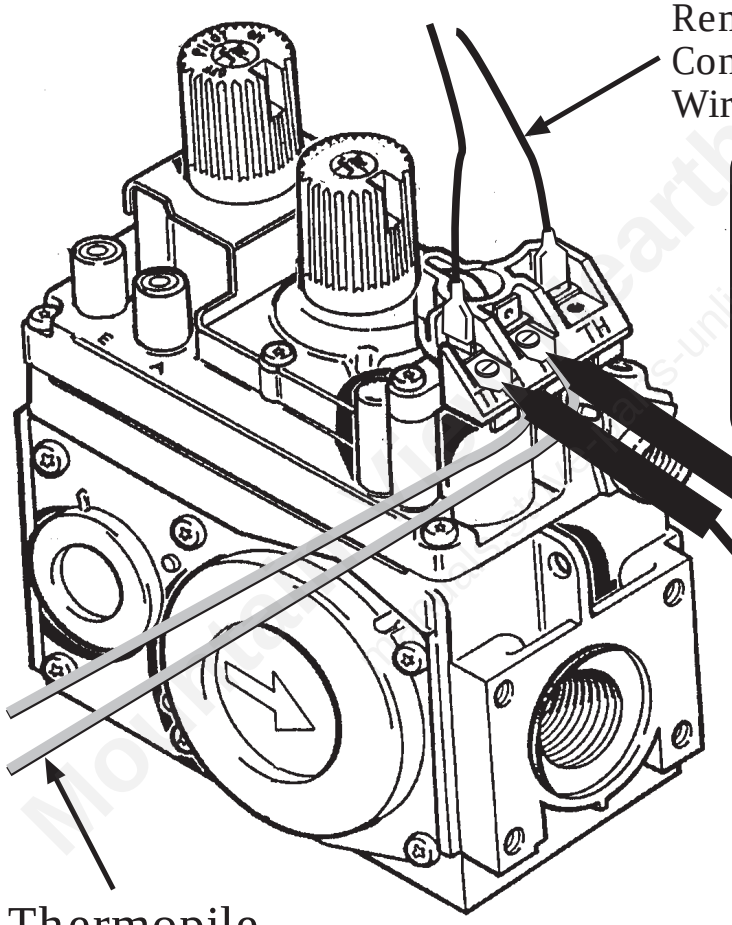
AND the gas control operating head does not meet the above OHMS specification, it should be replaced

Burner Does Not Light

Voltage Testing

Thermostat Circuit Test 3

Control Knob In Pilot Position



Remove Jumper Wire and Connect Thermostat Circuit Wires - Turn Burner Switch ON

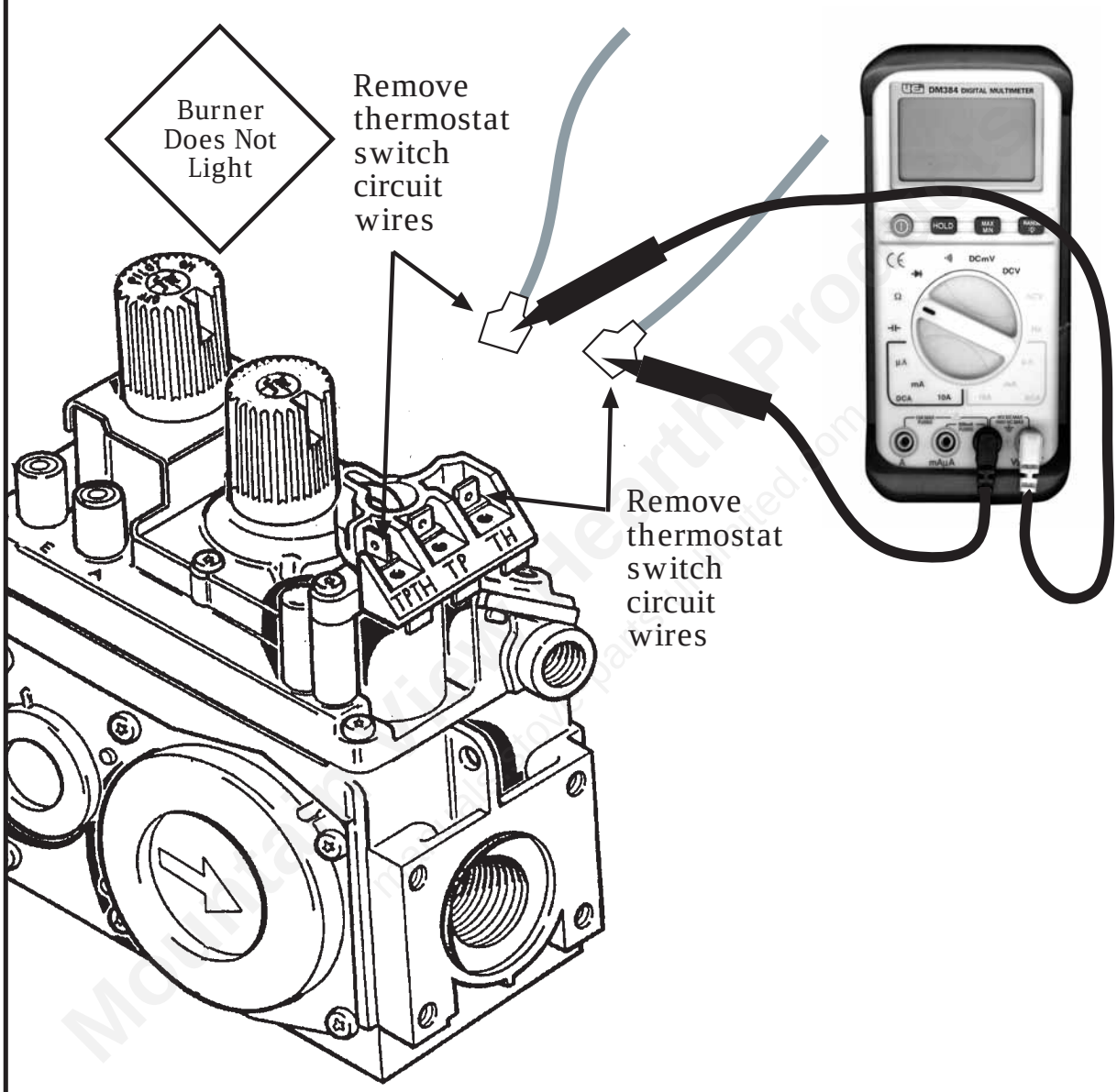
145 MV or Larger

If = to or greater than Test #1 there is a switch circuit problem - Conduct a continuity test on the thermostat switch circuit (see page 11)

Thermopile Wires

DCV

Thermostat/Switch Circuit Continuity Test

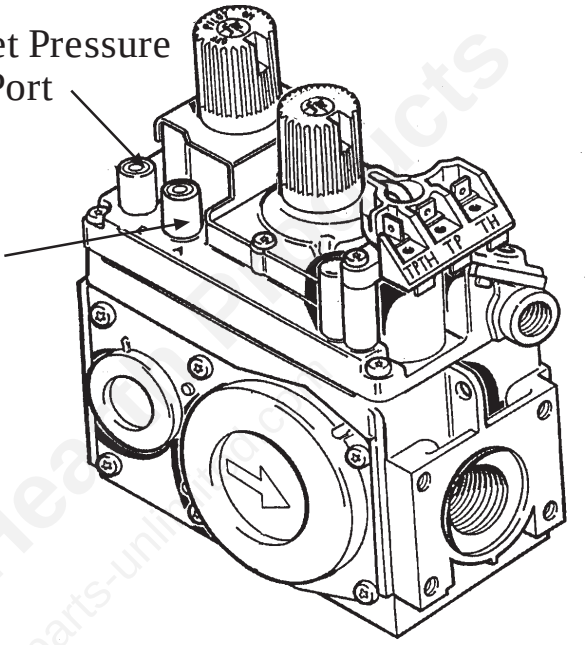


- Test continuity of the thermostat switch circuit
- Turn rocker switch to ON or make sure thermostat contacts are closed
- NO Continuity - Bad wires or defective thermostat/switch

Burner Does Not Light

Measuring Outgoing Gas Pressure

Digital Pressure Gauge



SIT Control Valve

1) Loosen output pressure tap (about two or three turns)
2) Zero out digital pressure gauge
3) Slip pressure hose over the outlet port
4) Light the pilot (knob on pilot)
5) Turn control knob to ON
6) Turn ON the main burner (high)
7) Read pressure (see chart)

Then

8) Turn OFF burner
9) Turn control knob to OFF
10) Remove pressure hose
11) Tighten pressure port screw

No Outgoing Pressure
Replace Regulator Body - Then if Neccessary, Gas Control Valve

Outgoing Pressure
But Still No Flame
- Check Burner Orifice for Blockage
- Check Burner Supply Tube

Output Pressures

NG	LP
1.8	2.7
3.5 W.C.	11 W.C.

IPI Gas Control Valve (For Revolution & 1080 Gas Fireplaces)

Electronic Ignition System

START

PUSH H/L BUTTON ON REMOTE

DOES THE PILOT LIGHT COME ON?

NO

1. Check the remote and make sure the batteries are good. If not, replace them.
2. Check batteries in battery pack and make sure they are good. If not, replace them. (see figure 1)
3. Check to see if the battery pack is connected to the module. If not, connect it.
4. Check leads from pilot assembly to module ignition “I” terminal on module & sensor on the “S” terminal on the module. (see figure 2)
5. Check to see if the remote has been programmed. If not, see Programming Remote.
6. Check that the switch on the side of the module is in the Remote position. If not, switch to Remote position.
7. Check continuity of pilot coil. Continuity good, no continuity bad, replace valve. (see figure 3)
8. Check voltage to pilot coil voltage. Should be 1.5 volt DC if not, replace module. (see figure 4)

YES

PILOT IS BURNINING BUT IGNITOR CONTINUS TO SPARK

YES

1. Is flame sensor being hit by pilot flame? If not adjust pilot. Is flame sensor wire connected to module and grounded? If not connect it.
2. Check continuity of sensor. (see figure 5) If sensor has continuity replace module.

NO

DOES THE PILOT FLAME LOOK BLUE?

NO

1. Does the unit have the right pilot orifice installed?
2. Has the unit been converted to the right fuel? If not, convert it.

YES

See next page.

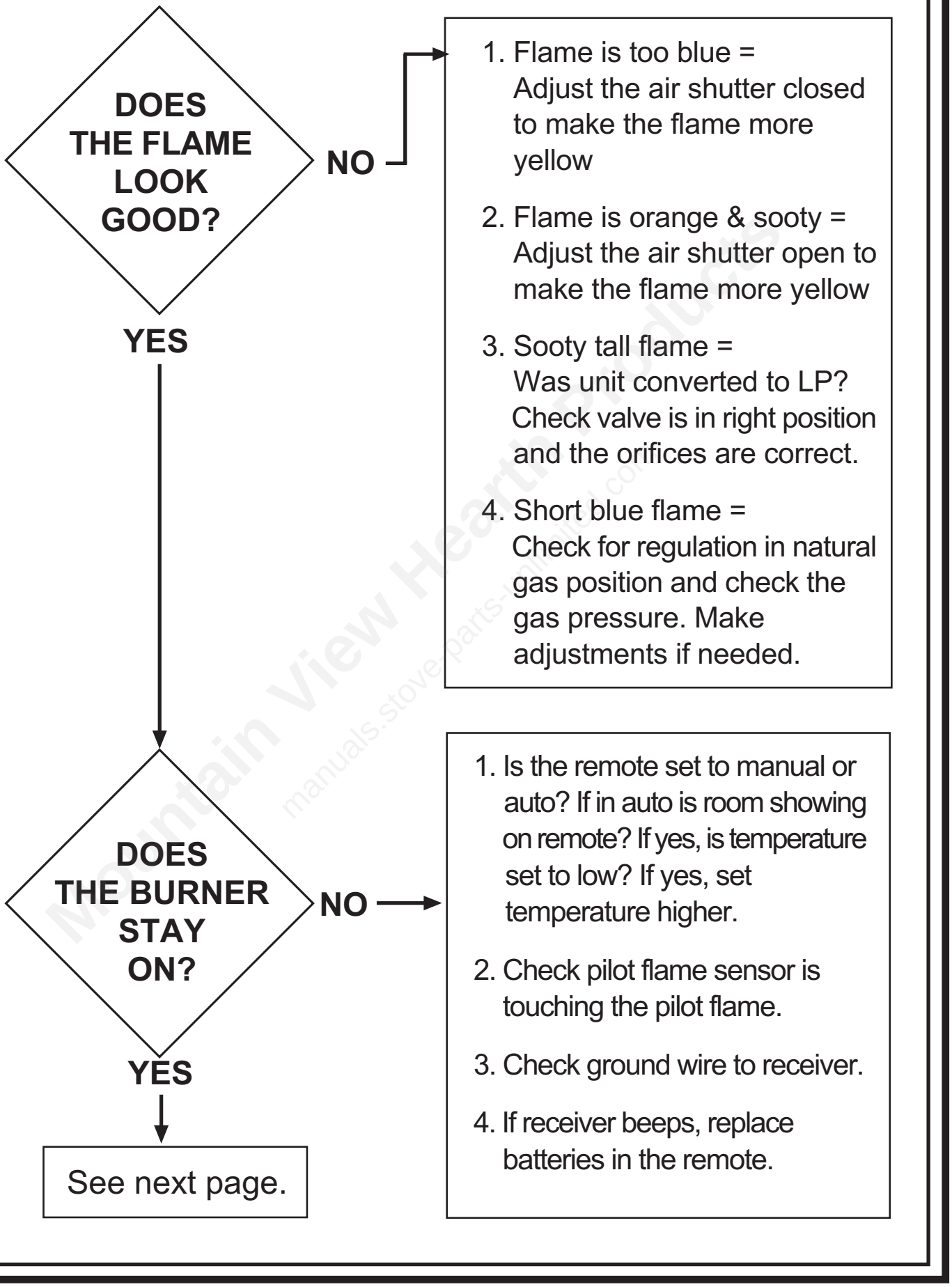
DOES THE BURNER COME ON?

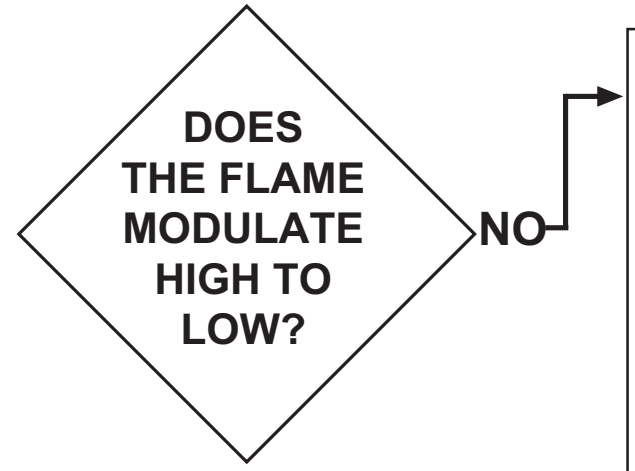
NO

1. Does the remote show CP in the display? If yes, child proof is on.
2. Check to see if the flame sensor rod is being touched by the pilot flame. If not, adjust pilot flame.
3. Check that the green and white wire is connected to the module and the gas valve main burner coil. If it isn't, connect it.
4. Check to see if the module is grounded to the valve. If it is not, connect it.
5. Do a continuity test of the main burner coil in the gas valve. Continuity it is good. If no continuity it is bad, replace the valve.(see figure 6)
6. Check voltage to the main burner coil. It should be 1.5 volts DC. If no voltage, replace module. (see figure 7)

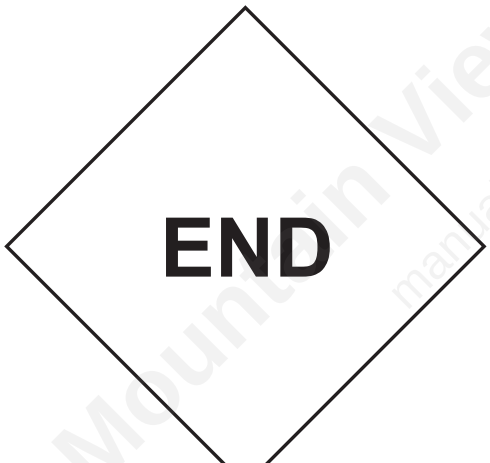
YES

See next page.





1. Is modulating motor connected to the battery pack? If not, connect it.
2. Check switch on battery pack. Is it in DC motor drive, if not, change it. (see figure 8
3. Does flame go down when it shows HI and does it go up when it shows LO? If so, reverse black and red power wires to motor.
4. Test again to see of flame modulates high to low. If not, check voltage to motor (see figure 9) No voltage - replace battery pack
5. Check continuity of motor.
   No continuity
   - Bad, replace valve.
   - Continuity Good, (see figure 10)
6. If everything is good, replace module.



ELECTRONIC IGNITION SYSTEM IS WORKING PROPERLY

Figure 1

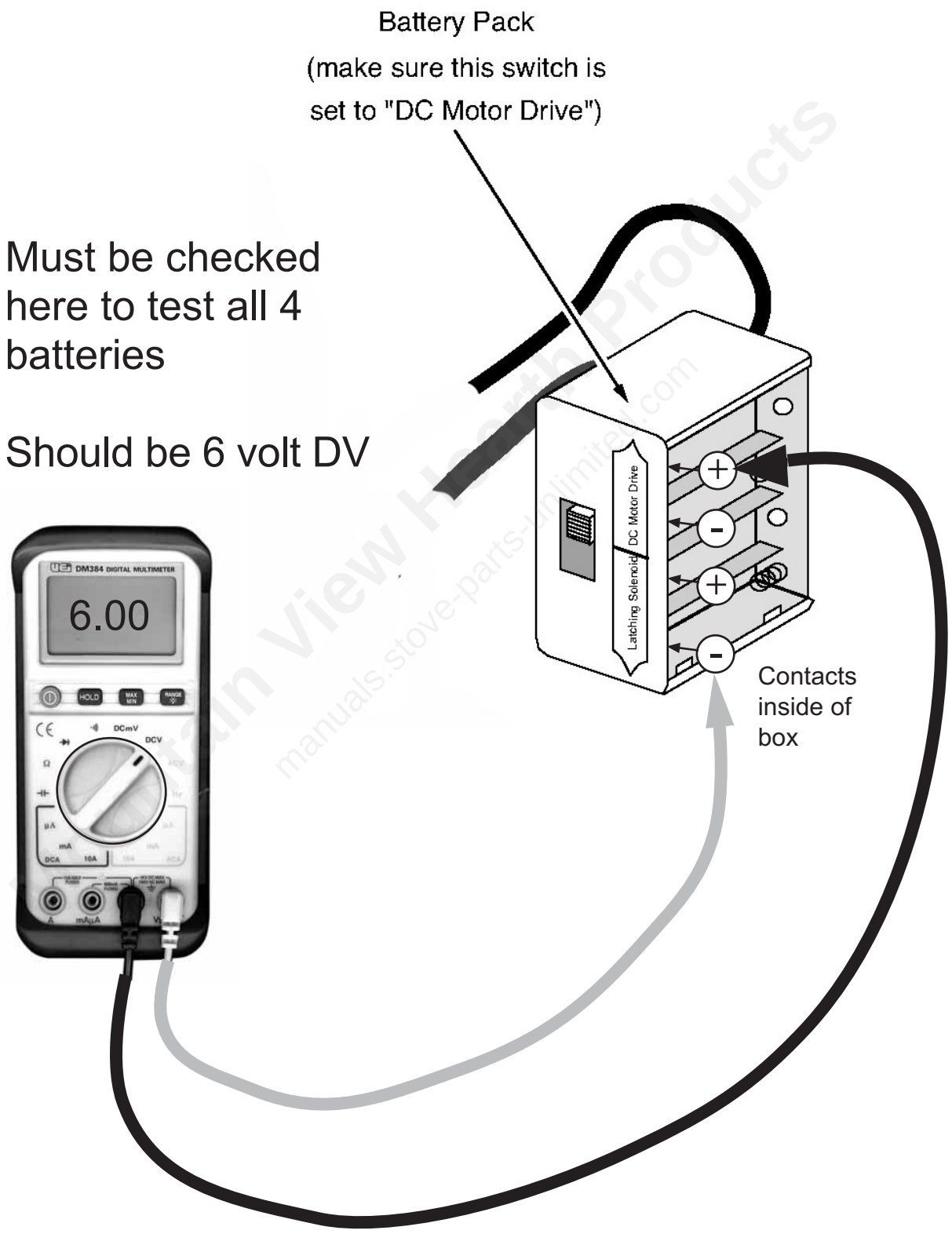


Figure 2

Verify wiring from pilot to module is correct.

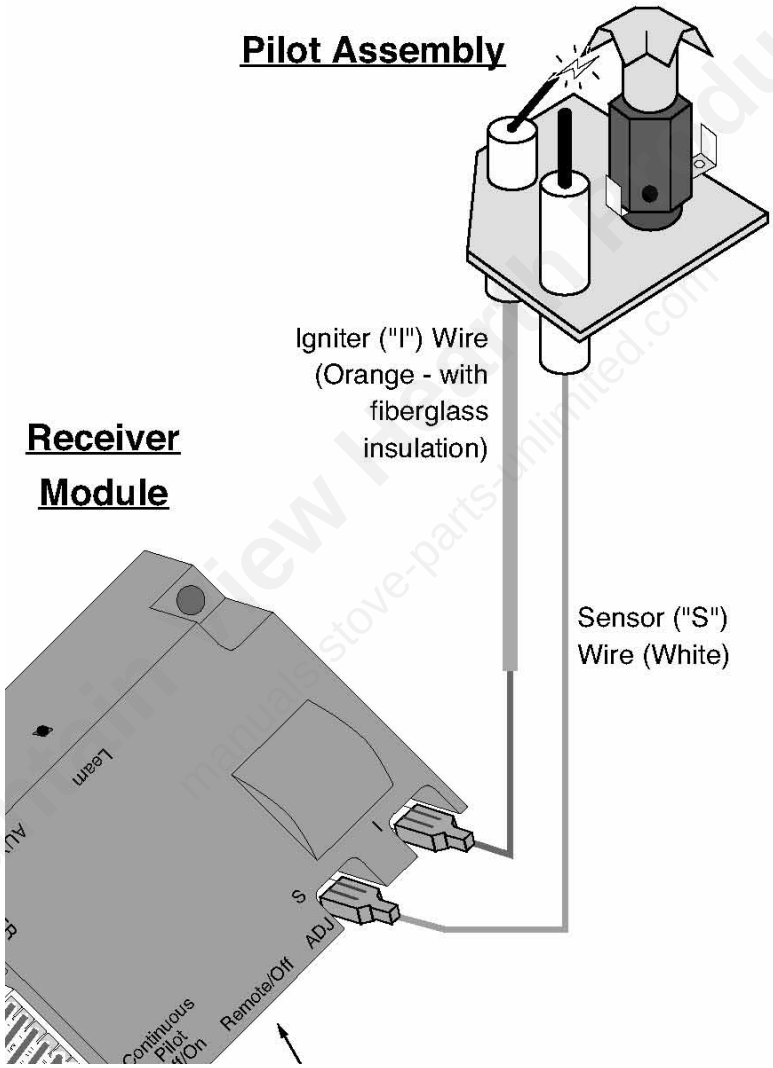
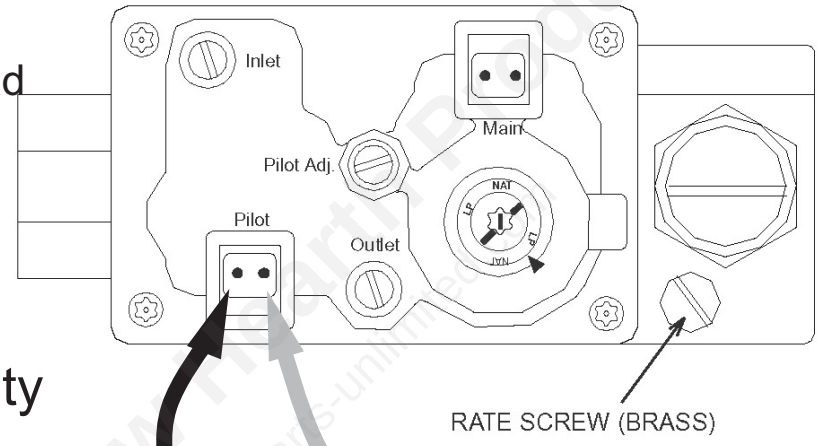


Figure 3

Check continuity on pilot head coil

Continuity - Good
No continuity - Bad, replace valve

Unplug Molex with orange/white wires to test head coil on valve.



Continuity Test

Figure 4
With pilot turned ON

1.5 volts DC

Pilot will continue to spark for 1 minute and shut down if pilot does not light.

Put test leads into Molex while pilot is sparking to test.

1. Voltage is good if meter displays a constant 1.5 .

2. If numbers displayed are randomly cycling to different numbers there is no voltage - replace module.

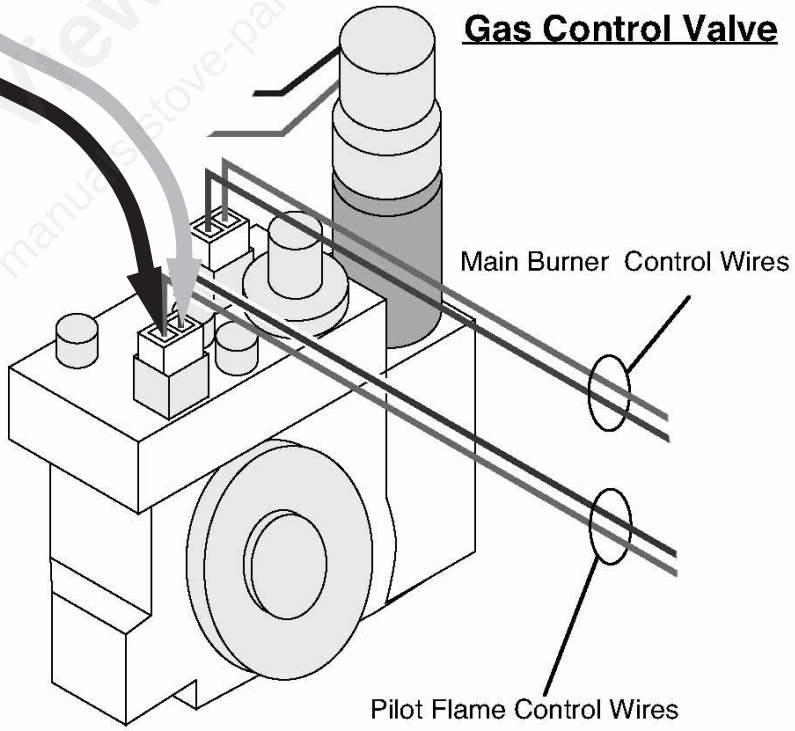


Figure 5
Perform A Continuity Test

Test Continuity

If you have continuity, the part is GOOD

If No continuity, the part is BAD - Replace

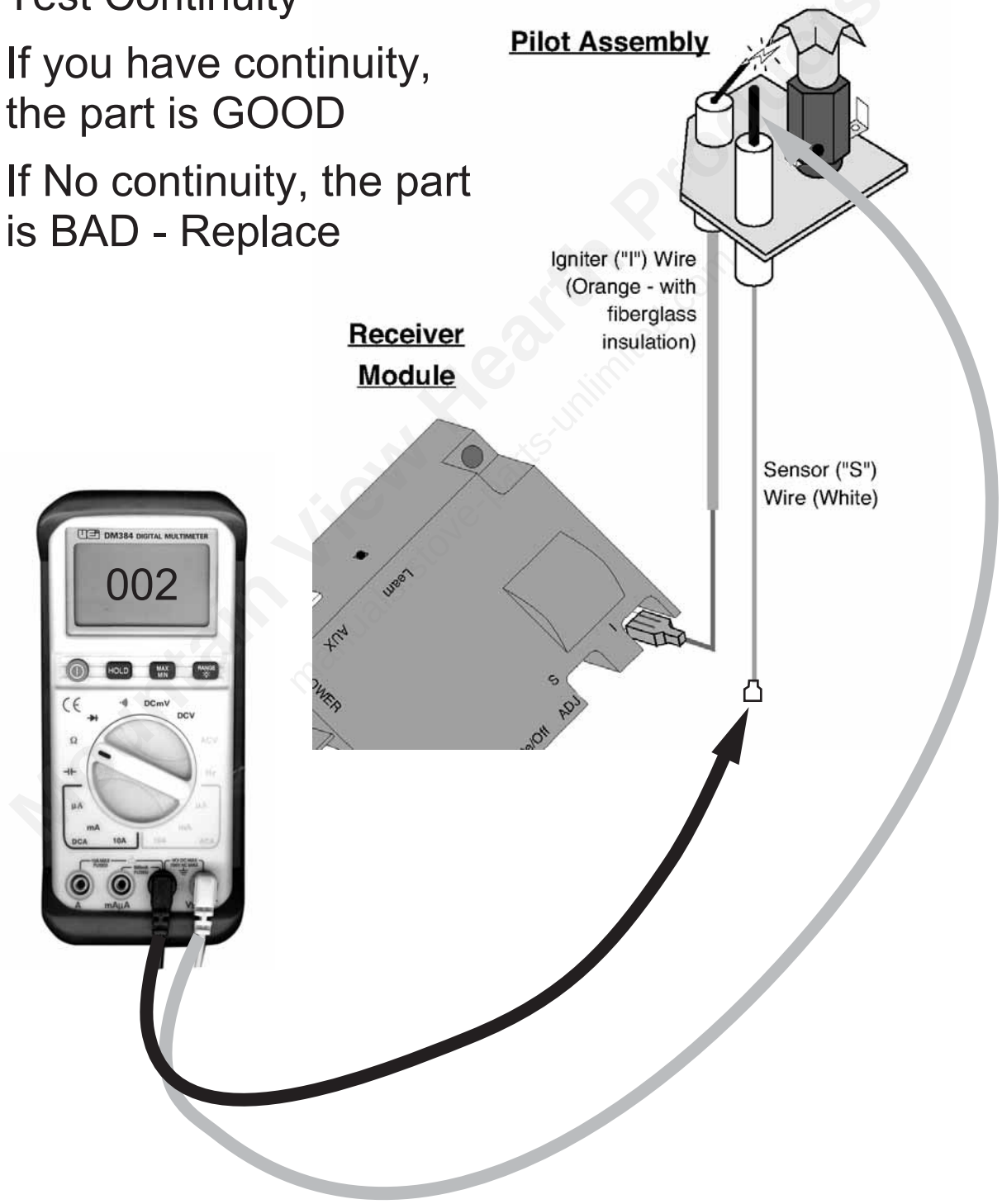


Figure 6

Test Continuity
Continuity - GOOD
No Continuity - BAD/Replace

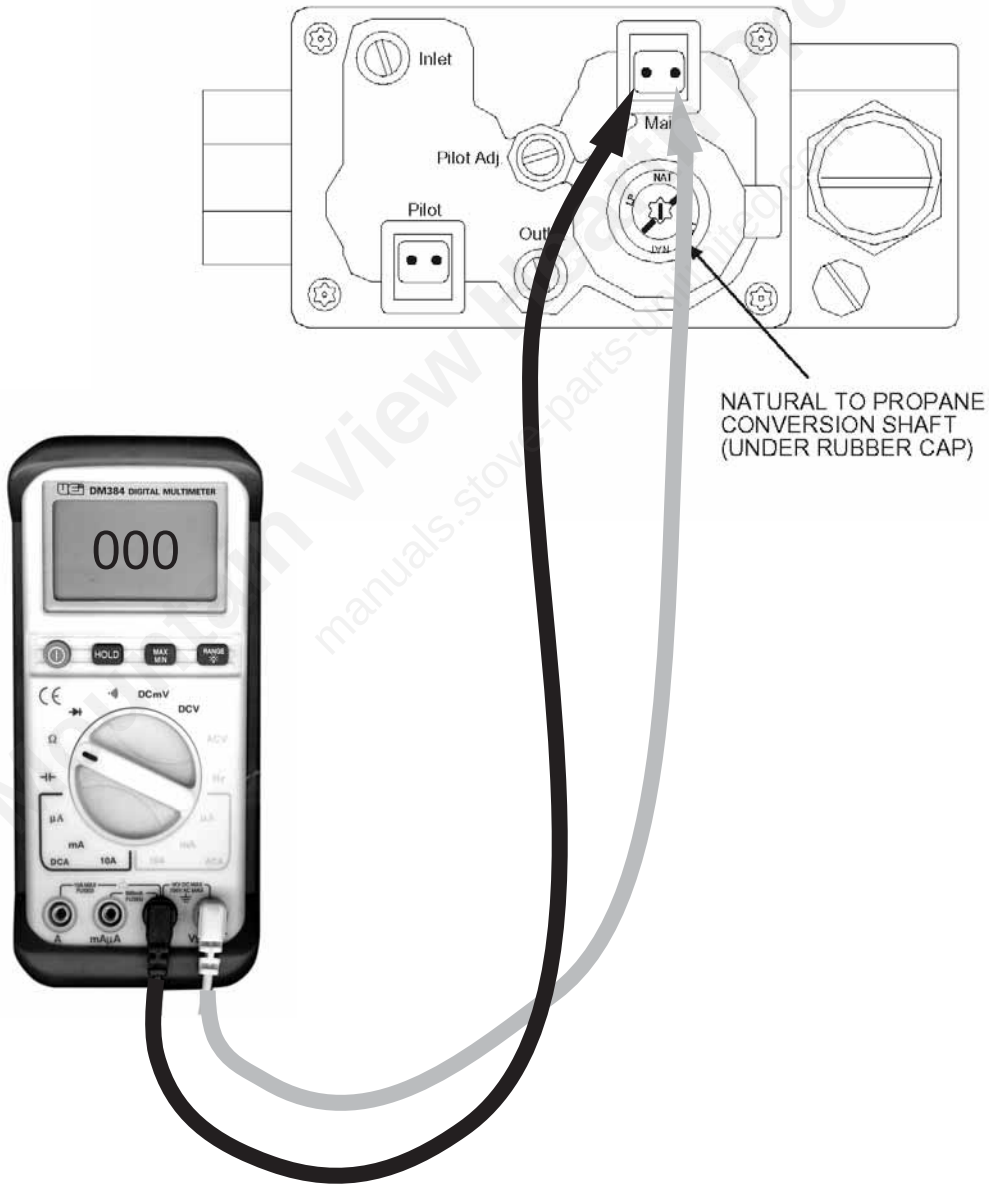


Figure 7
Pilot Must Be ON To Perform Test

1.5 volts DC

Make sure Molex is connected to the valve and put leads into the Molex with pilot burning.

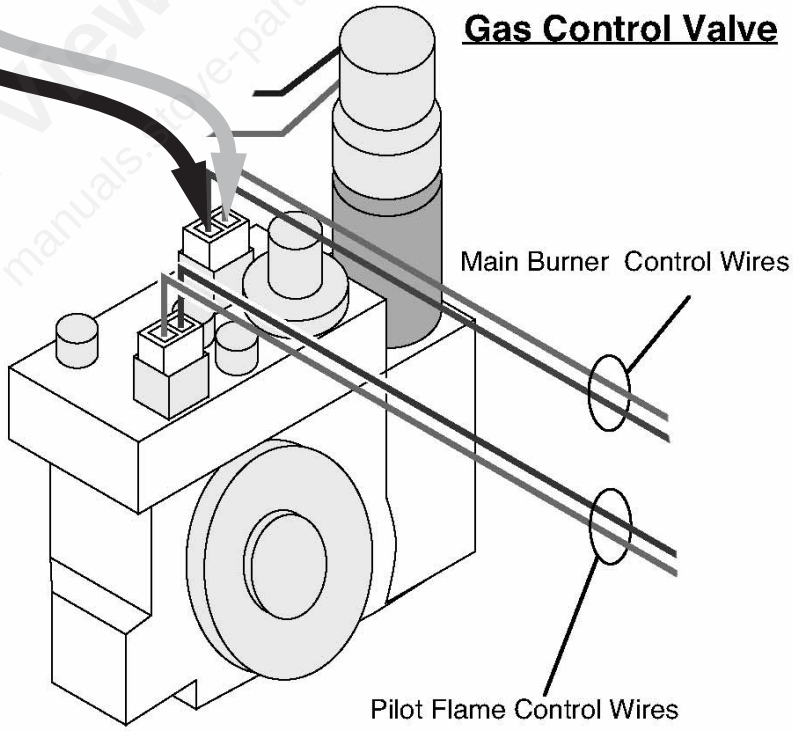


Figure 8

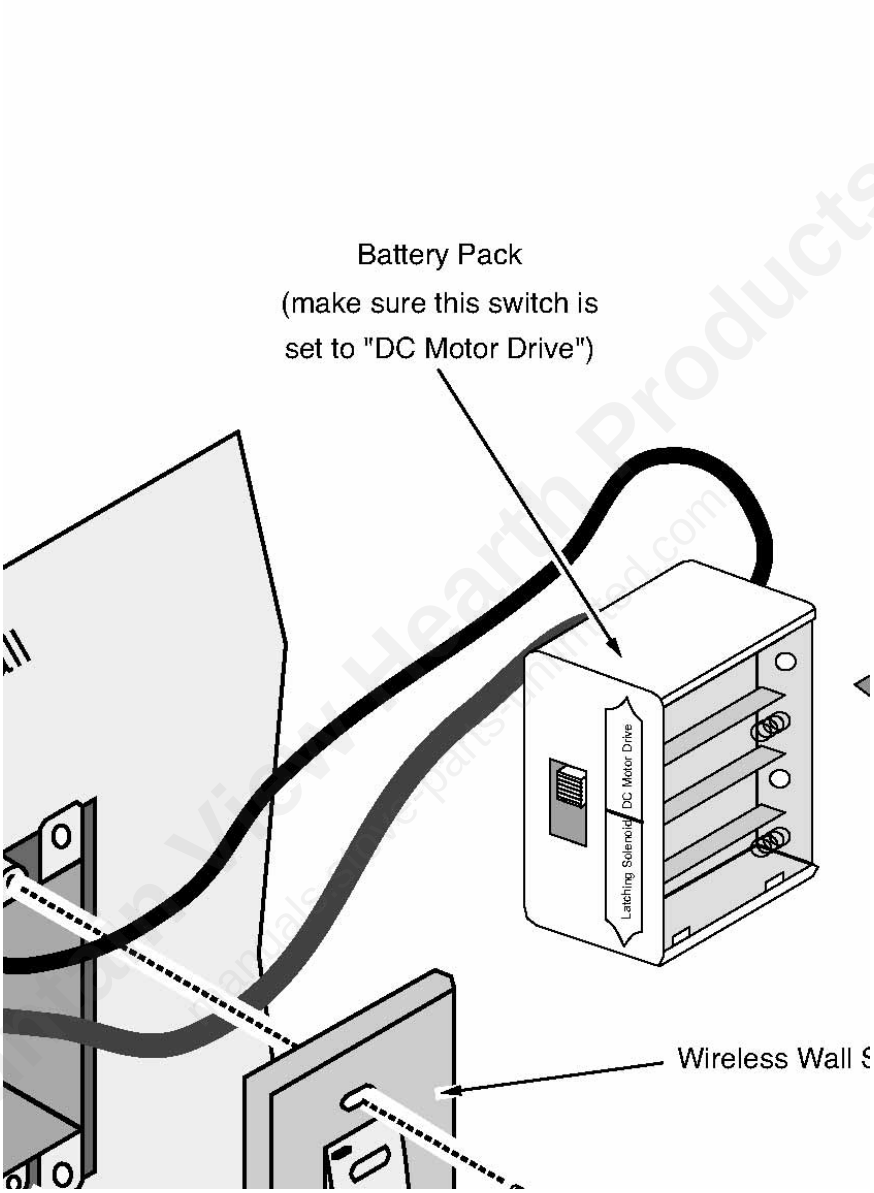


Figure 9
Burner Must Be ON

Should have 5.0 volts as a minimum

No voltage - replace battery box

H/L Button needs to be pressed on remote to perform test

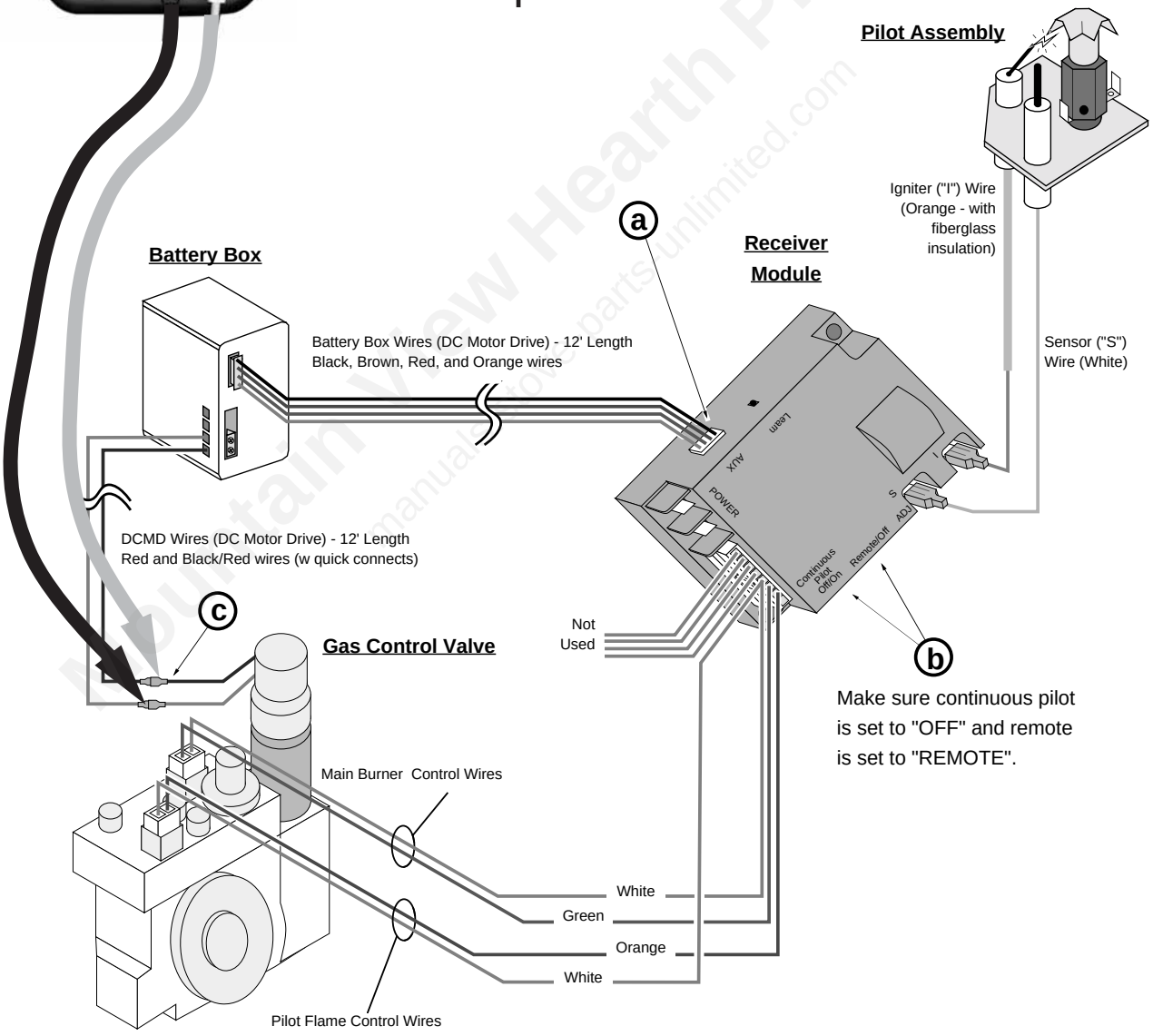
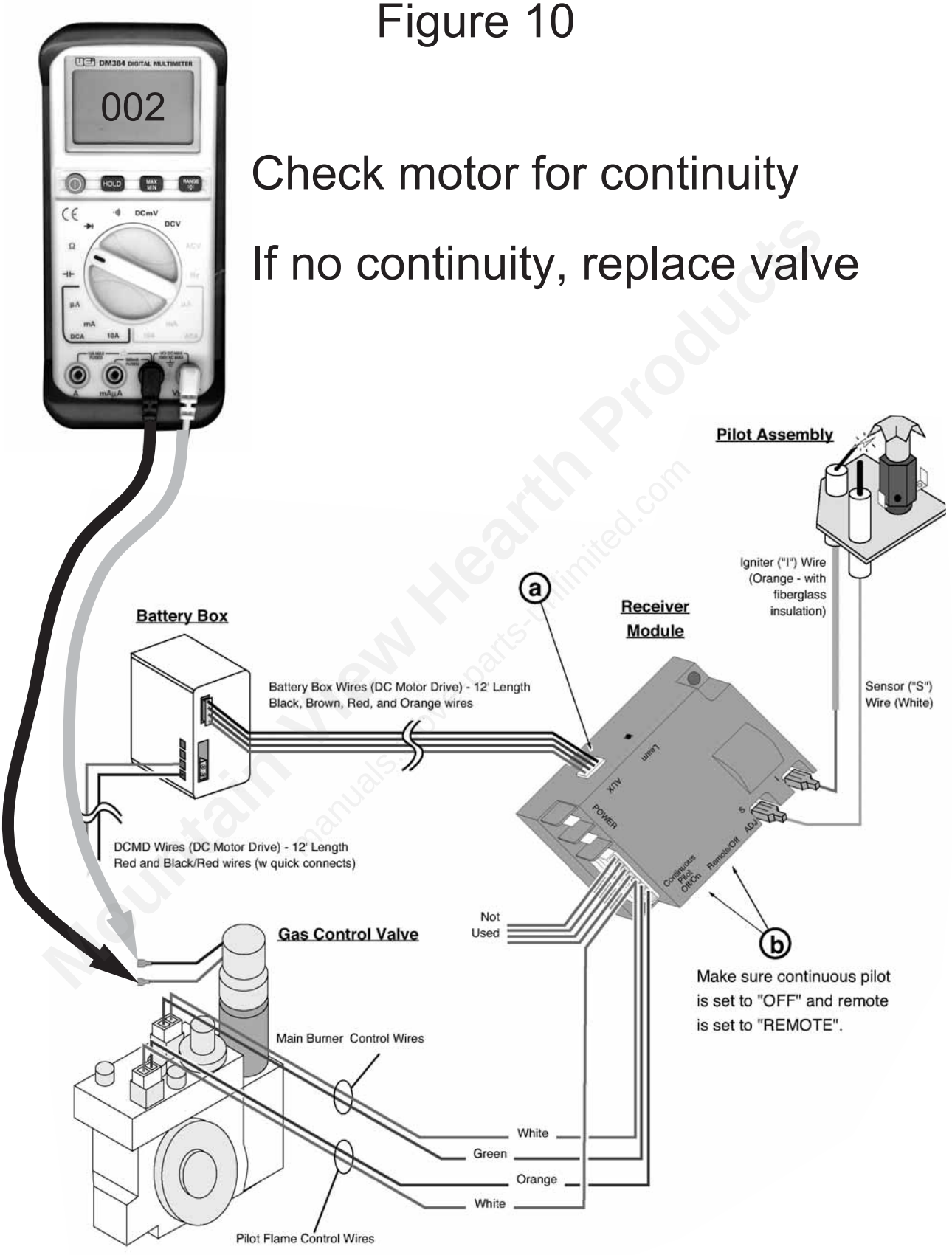


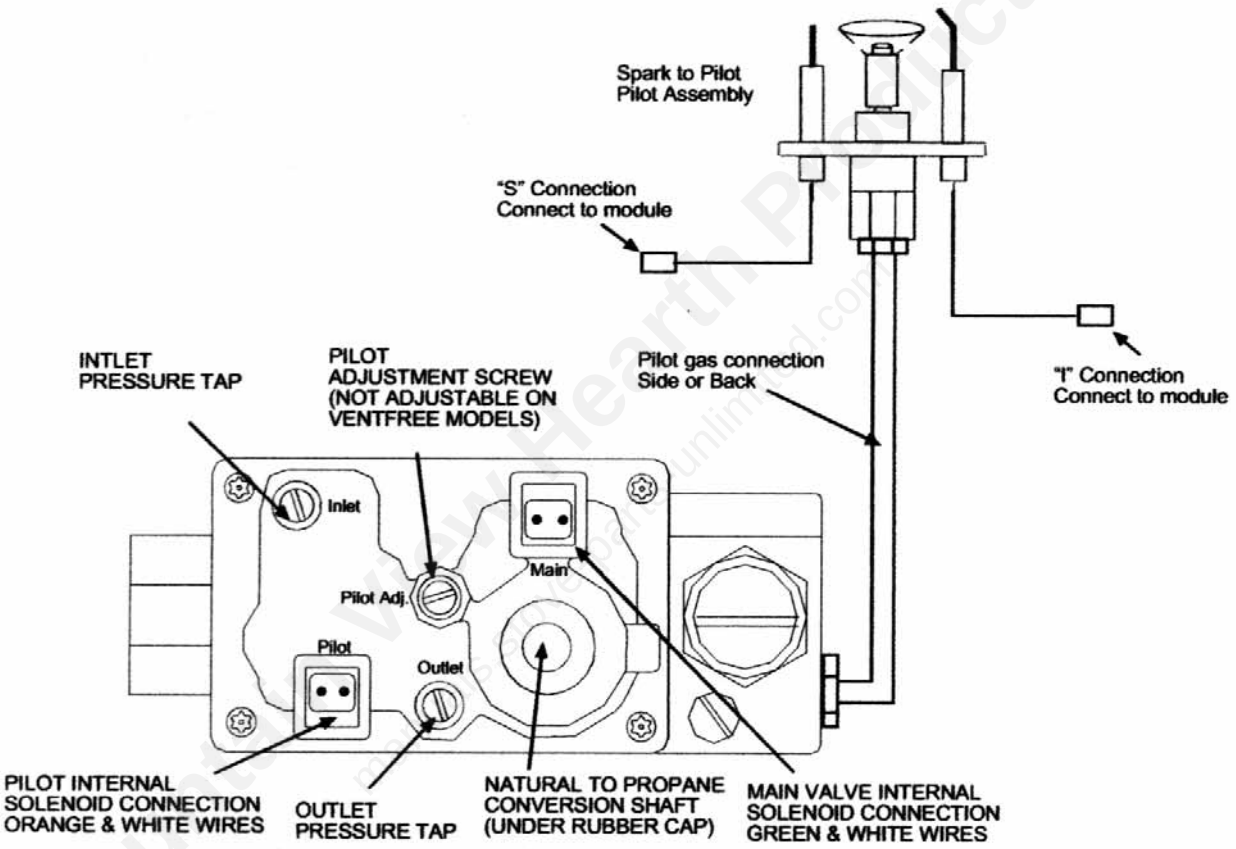
Figure 10



Check motor for continuity

If no continuity, replace valve

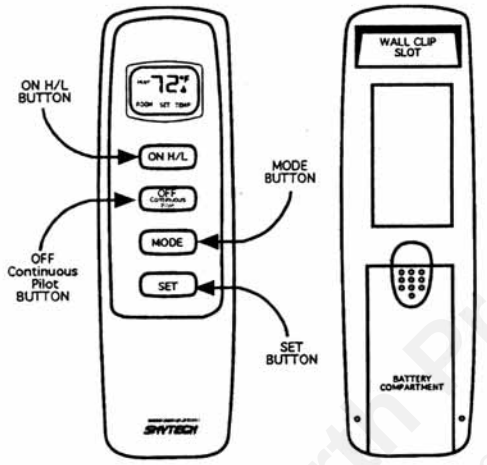
Electronic Ignition Gas Valve

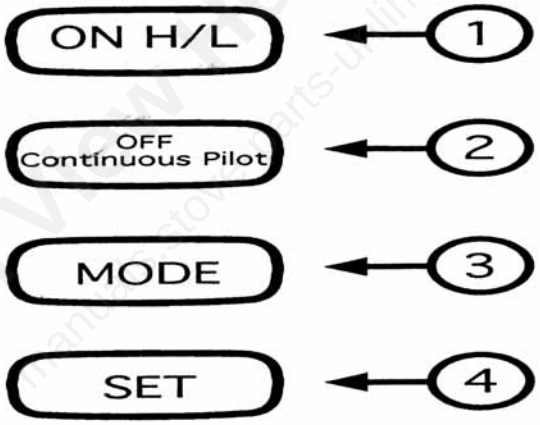


FACE VIEW OF GAS CONTROL WITH NO HI/LOW CONTROLS

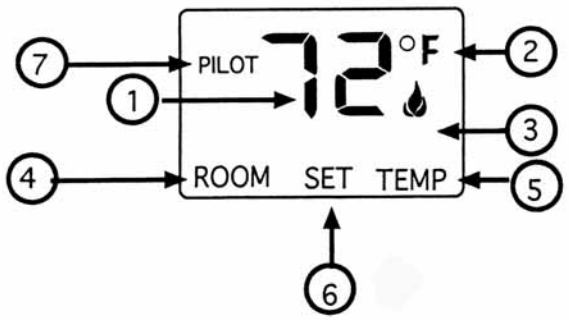
Revolution Remote Control

TRANSMITTER





LCD - Liquid Crystal Display



Revolution Wall Switch

Required & Recommended Diagnostic Tools

Diagnostic Equipment

MUST HAVE

Multimeter

Gas Pressure Gauge

Thermocouple Adaptor

IMPORTANT TO HAVE

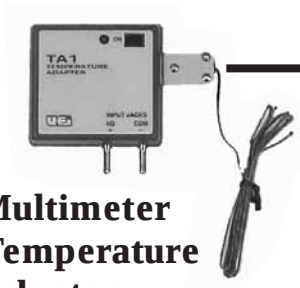
Digital Air Pressure Gauge

CO Analyzer

Gas Leak Dectector

Diagnostic Equipment

NICE TO HAVE



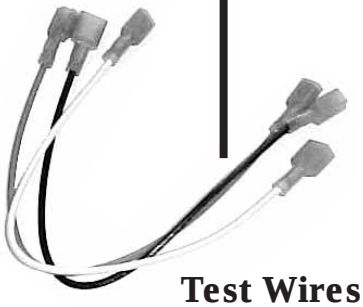
Multimeter Temperature Adaptor

Test Cord

Laser Targeted Thermometer

Volt Stick

Outlet Analyzer



Test Wires

Laser Center Locator

Log Placement

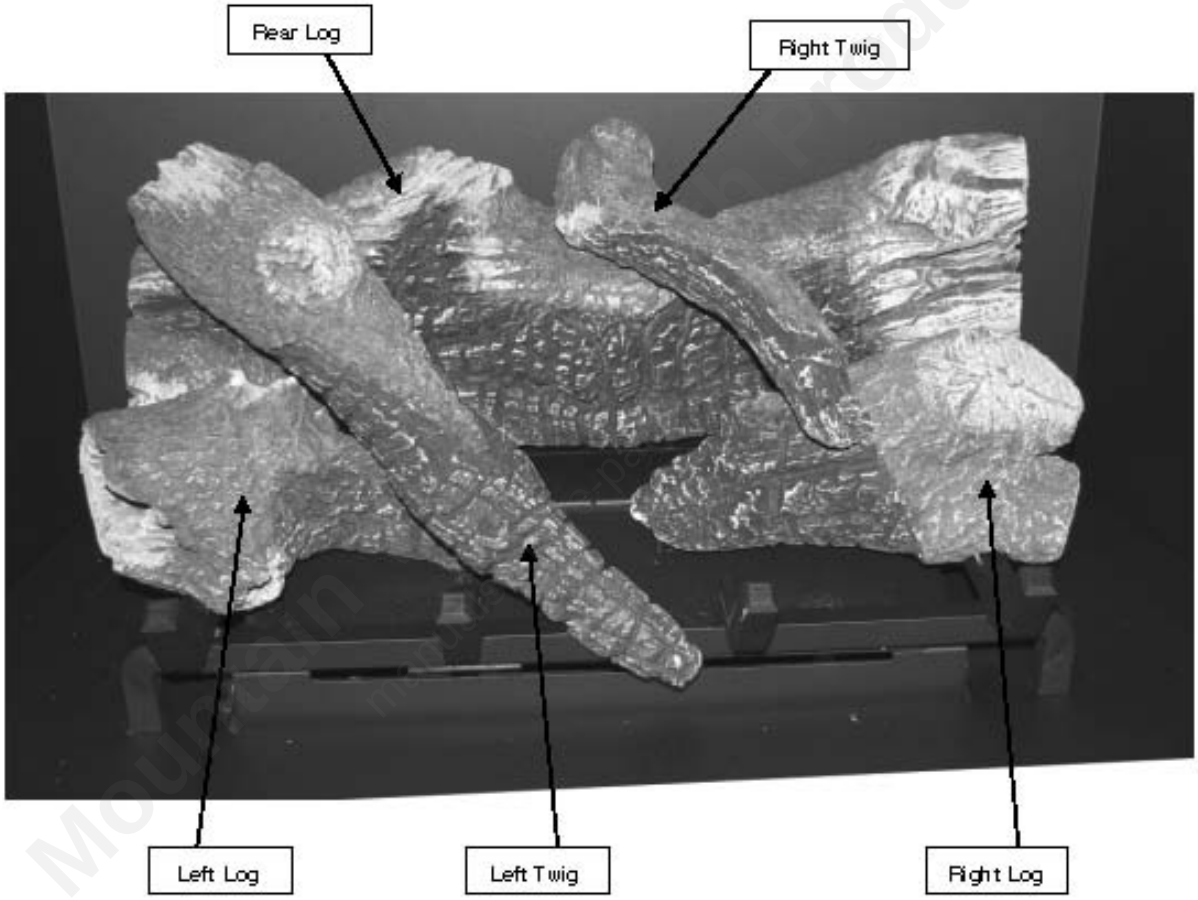
TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Log Set Installation

Log Set Overview

When installed, the logs should appear as shown below.

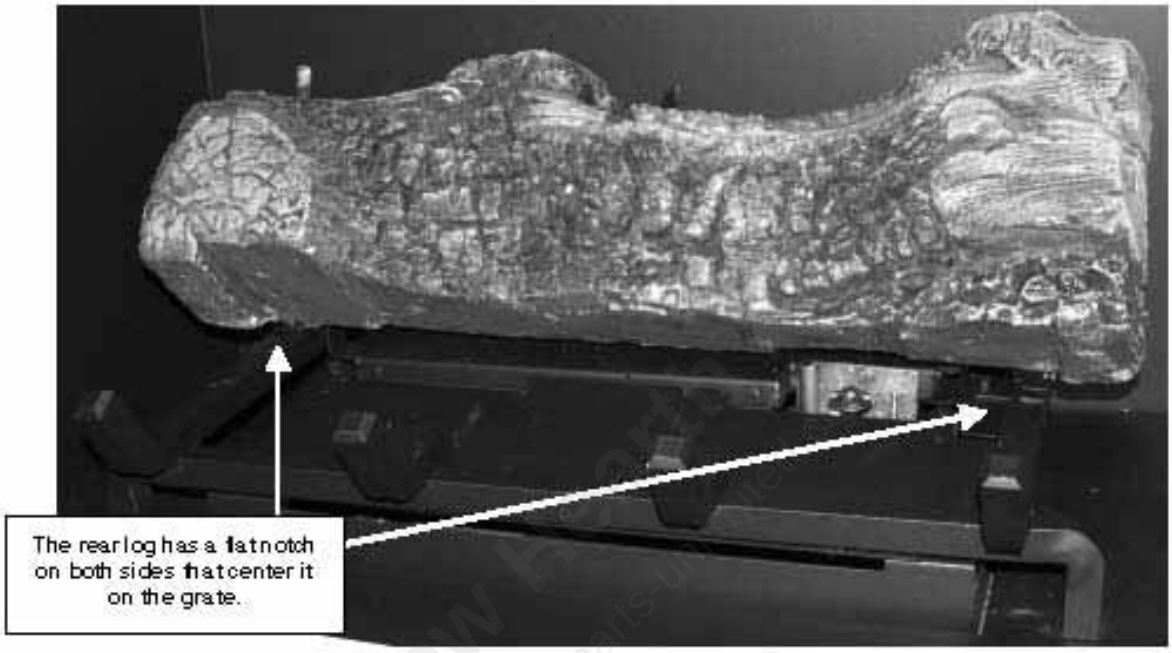


Log Placement

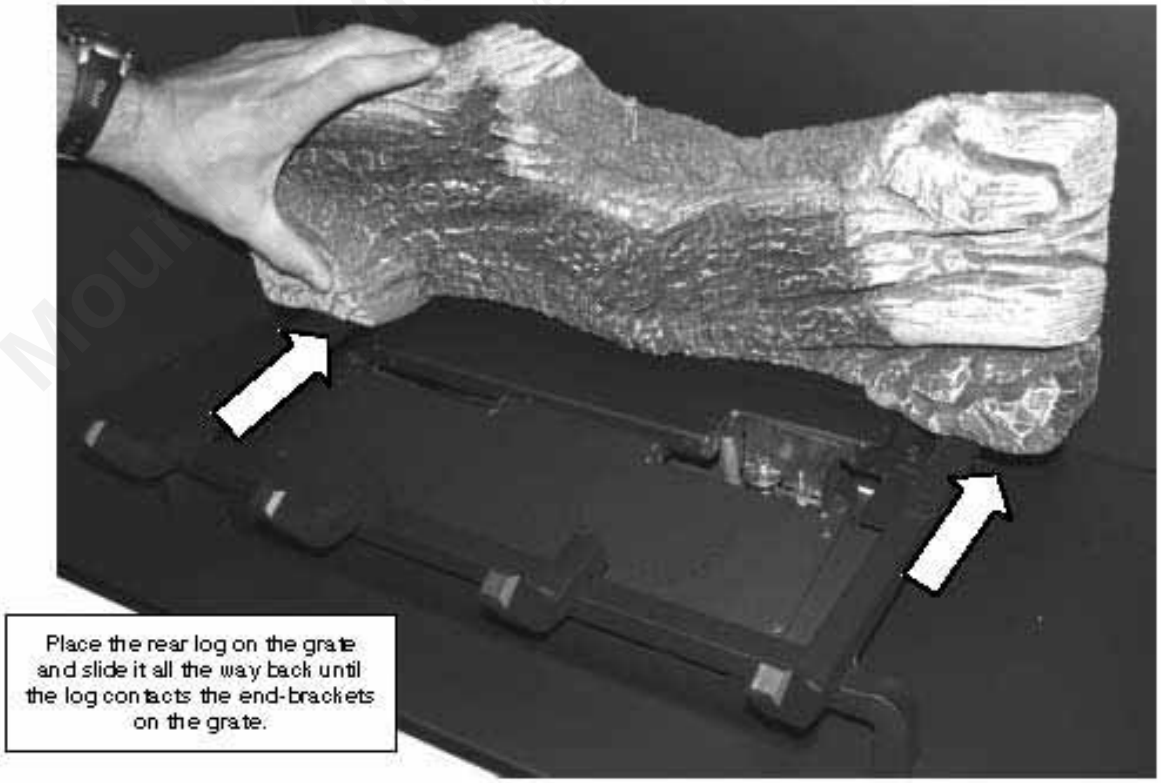
TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Rear Log Installation



The rear log has a flat notch on both sides that center it on the grate.



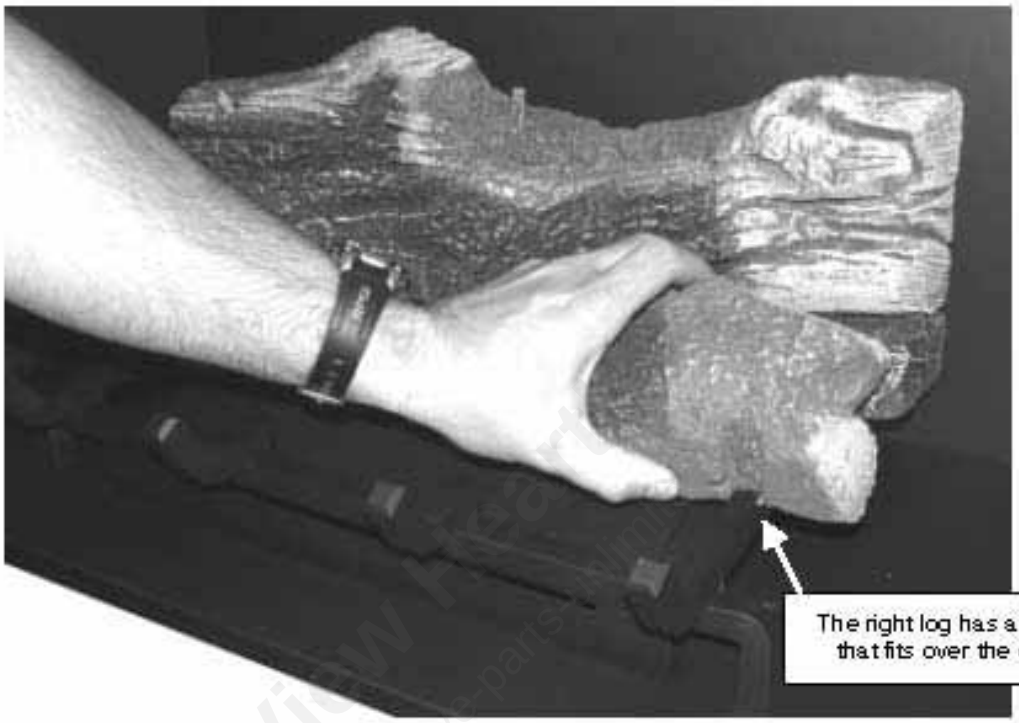
Place the rear log on the grate and slide it all the way back until the log contacts the end-brackets on the grate.

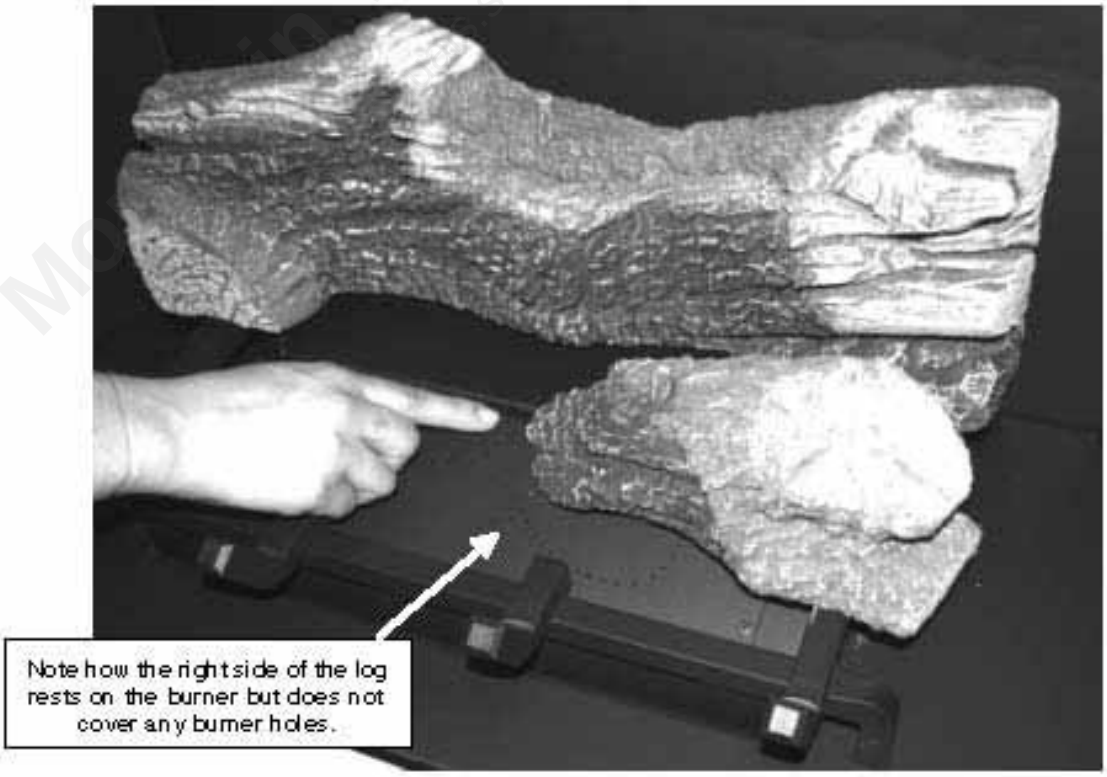
Log Placement

TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Right Log Installation



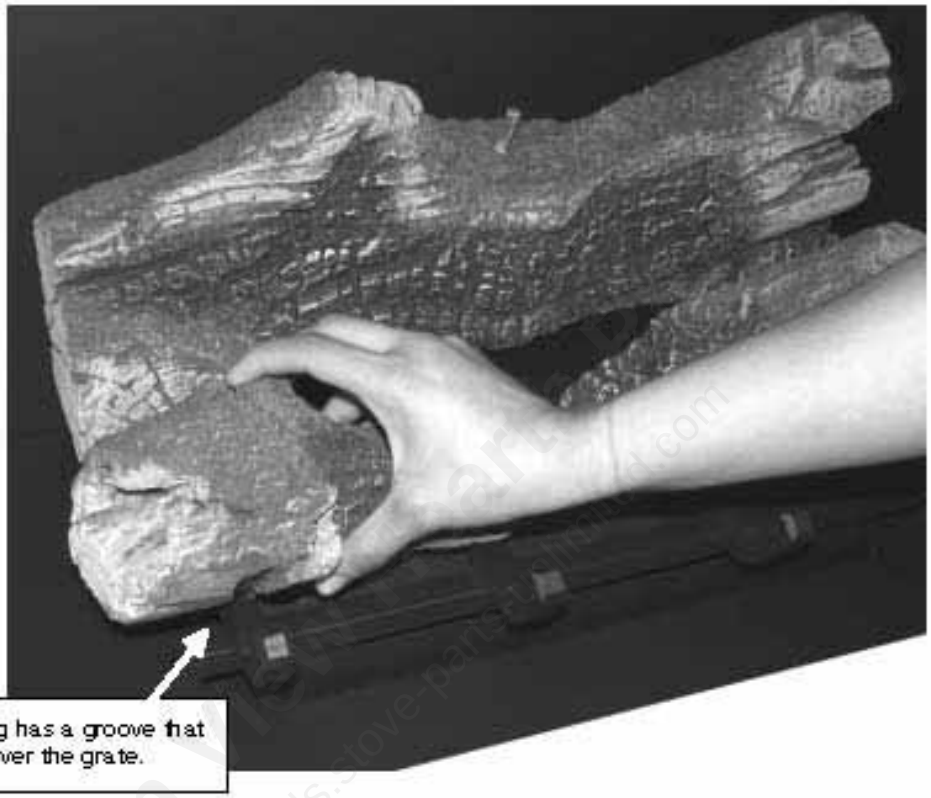


Log Placement

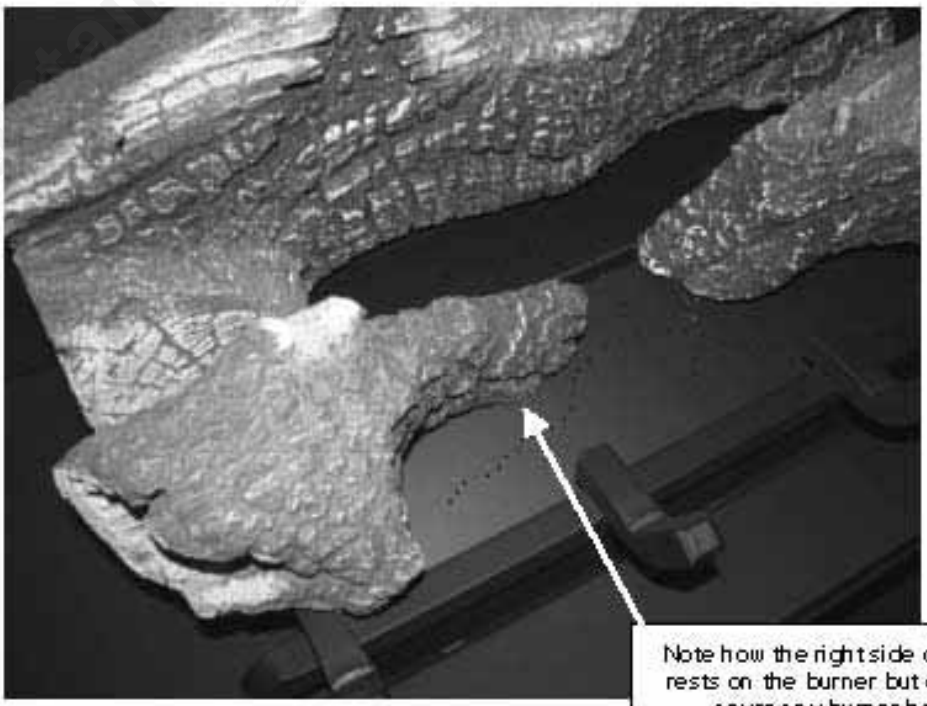
TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Left Log Installation



The left log has a groove that fits over the grate.



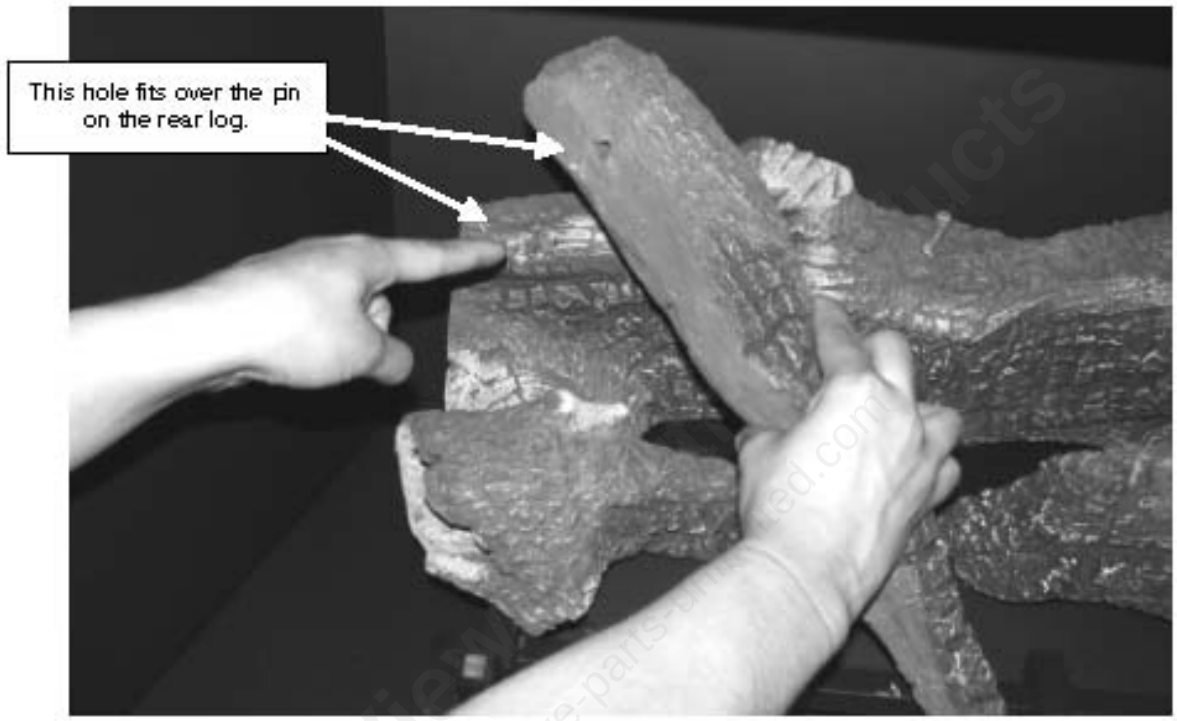
Note how the right side of the log rests on the burner but does not cover any burner holes.

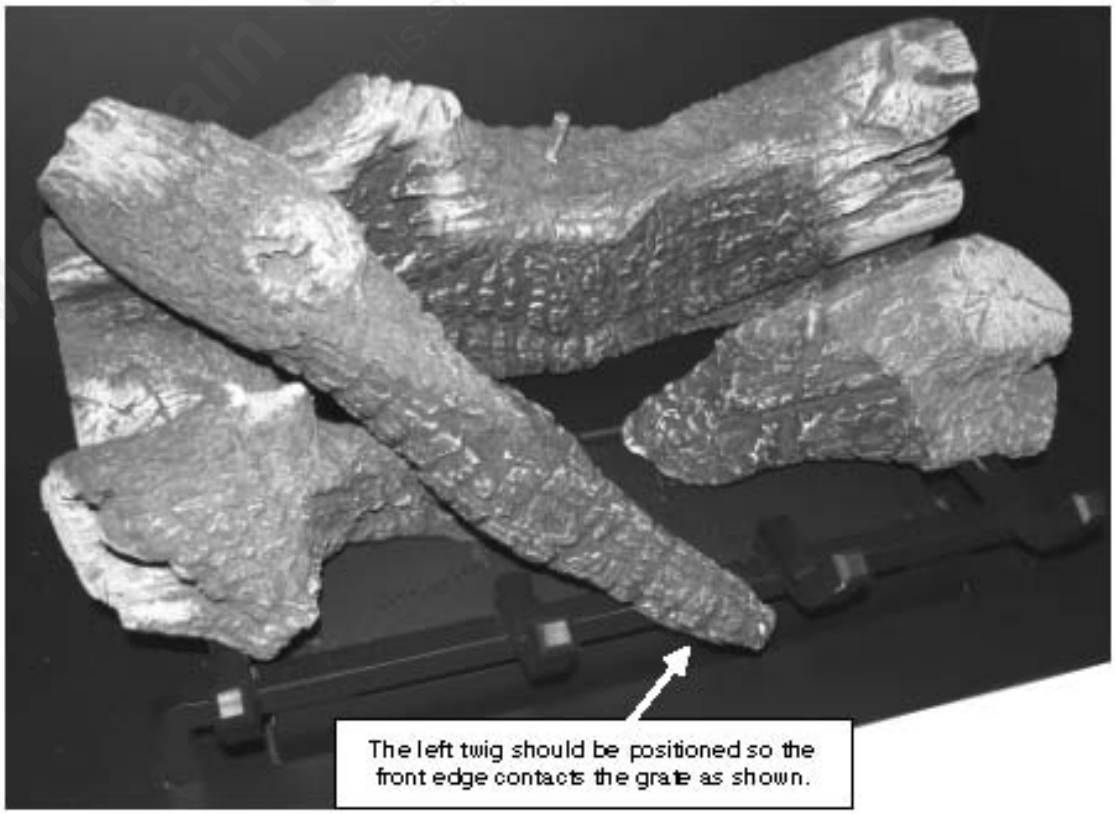
Log Placement

TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Left Twig Installation



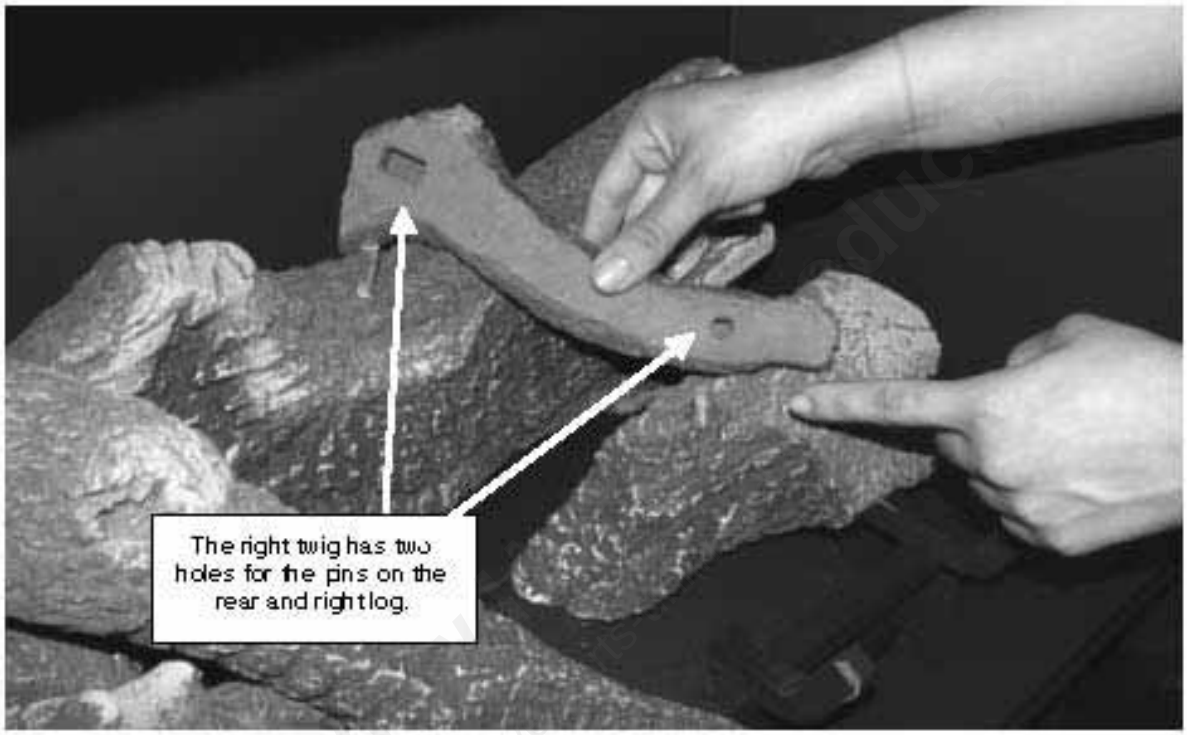


Log Placement

TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Right Twig Installation



Log Placement

TRAVIS INDUSTRIES
HOUSE OF FIRE

Seattle (564 SS)

Ember Installation

A bag of embers is provided to further enhance the firebox. Place the embers on the firebox floor and on the burner. Do not place embers oer any of the burner holes or air channels.

GAS VENTING

TRAVIS INDUSTRIES
HOUSE OF FIRE

Two Factors In Venting Draft/Flow

General Venting Principles

Direct Vent

Direct Vent Fireplaces

Direct Vent Stoves

Venting

Measuring Pipe Lengths

Termination

Venting Configurations

Direct Vent Appliances

Direct vented gas appliances work well with new home construction. Today's homes are extremely air tight and indoor air quality has become an important issue.

Direct vent appliances address these major concerns and therefore, all of Travis Industries gas appliances are now direct vent only.

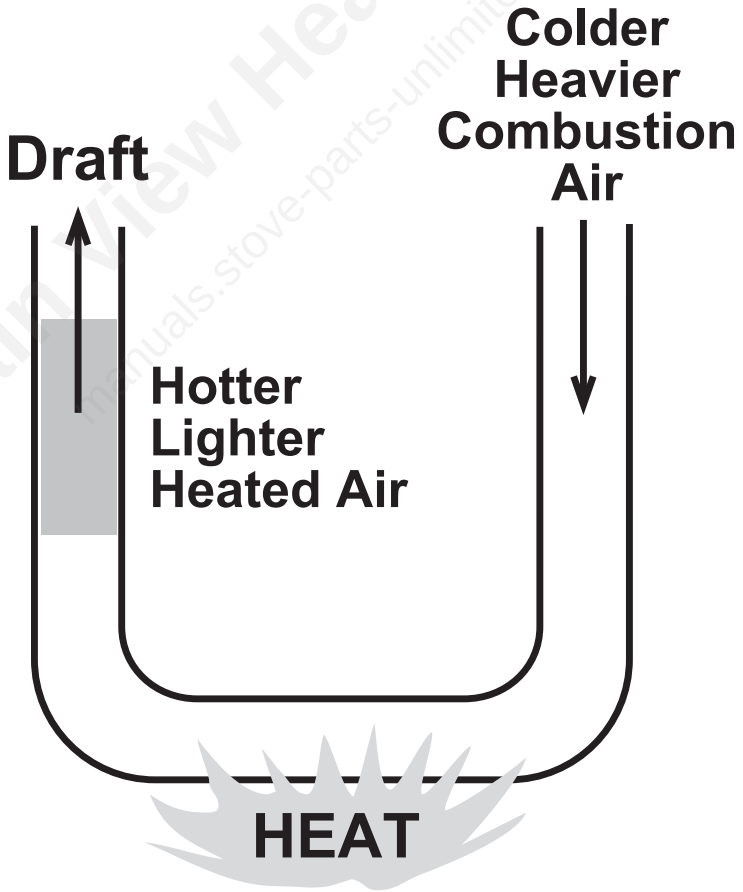
- Sealed combustion chamber.
- No interaction with house.
- Exhaust goes to outside and combustion air comes from the outside.
- Terminates either vertical or horizontal.
- Co-axial and Co-linear venting used.
- Balanced system - exhaust out/air in.
- Operates well in a home with negative pressure up to 25 Pa (pascal).

(1 Pascal =.004" of W.C. or 250 Pa = 1" W.C.).

Venting
1st Factor of Venting

DRAFT: The pressure difference that is available to drive the flow of air and/or combustion gases through an appliance and its venting system.

Draft is created in a venting system by the temperature difference between the air and/or combustion gases in the venting system and the outdoor air. The greater the temperature difference, the greater the draft.



GAS VENTING

TRAVIS INDUSTRIES
HOUSE OF FIRE

Poor Draft

- **Outside of Travis Venting Parameters**
- **Improper Territory Setting**
- **Cooling Vent Gases**
- **Flow restriction**

FLOW: The volume of gases that move through the vent

Venting Flow Restrictions

- **Vent Size**
- **Number of Turns in Vent (Elbows)**
- **"Down Hill" Horizontal Vent Sections**
- **Outside of Travis Venting Parameters**

General Vent Principles

- Follow vent parameters as spelled out in Travis Industries installation directions.

- Keep vents as straight as possible.
  - Minimize offsets and turns
  - Minimize horizontal runs
  - Slope upward not downward 1/4" rise per foot of run
  - Have some rise before elbowing

- Use listed terminations only.

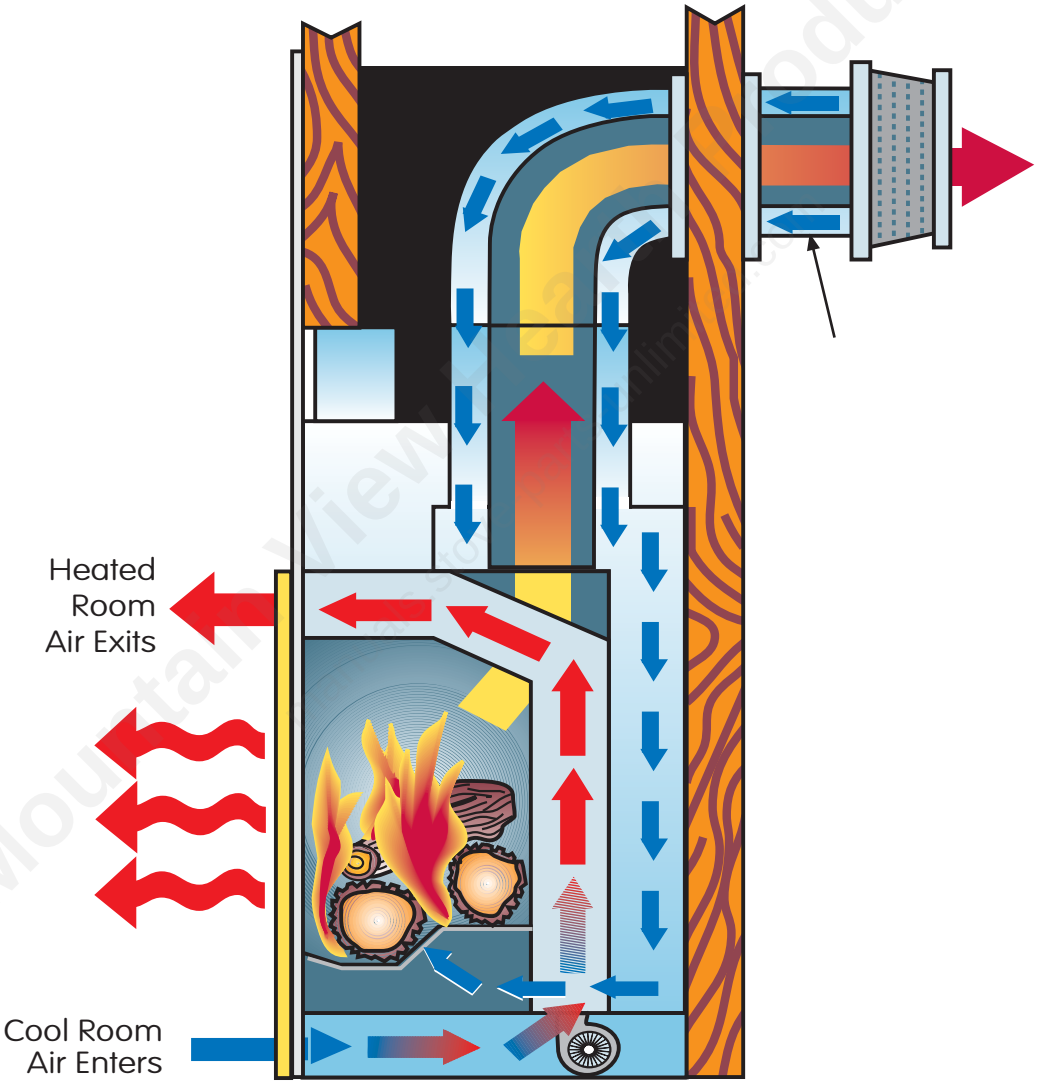
- Hearth gas appliances must be individually vented and should never connect to an active solid fuel burning appliance chimney or other gas appliance.

- Follow Travis Industries termination heights and clearances for proper vent termination.

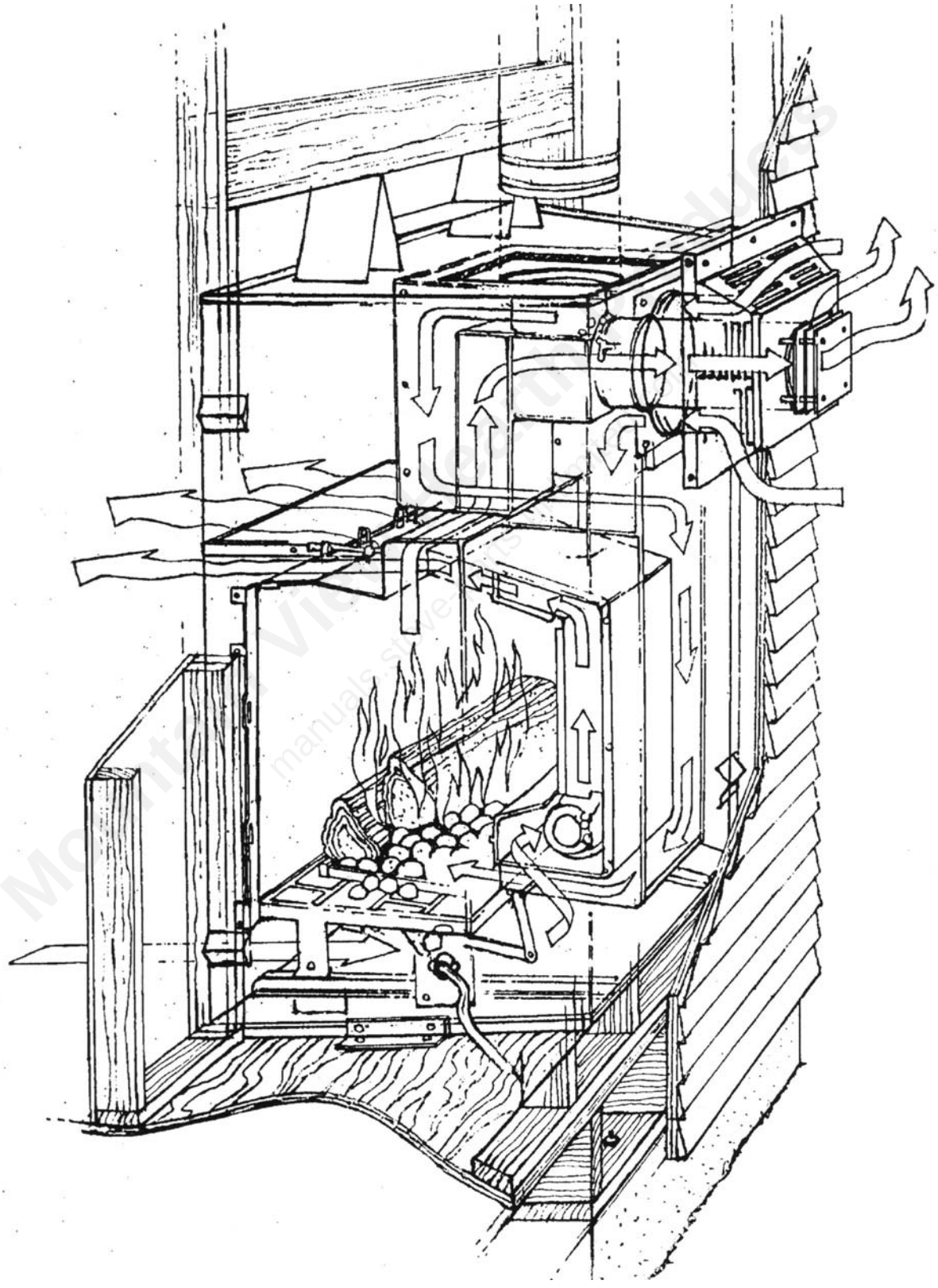
- Keep vents in heated, warm areas.

Direct Vent Appliances

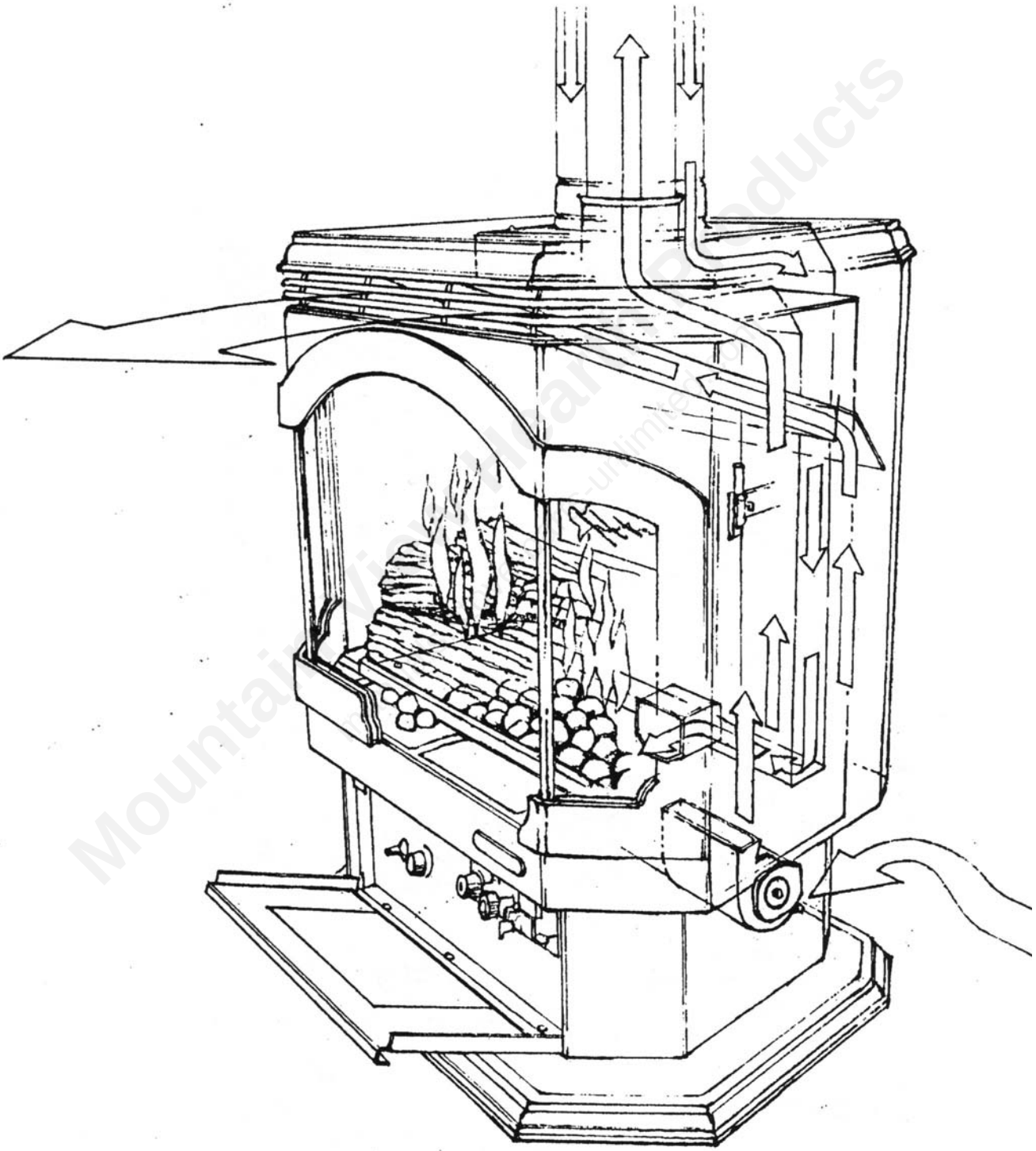
- All combustion air comes from outside the home



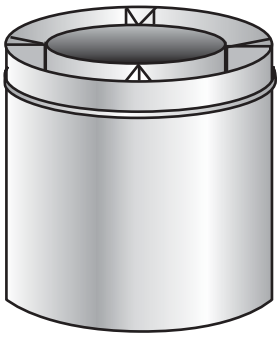
Direct Vent Fireplace Cutaway



Direct Vent Stove Cutaway



Direct Vent Appliances



CO-AXIAL VENT (Fireplaces)

Inner - Exhaust
Outer - Intake (combustion air)

6 5/8" or 8" Duravent
8 5/8" with 6" inner pipe
8" x 5"
8 5/8" x 6"

CO-LINEAR VENT (Inserts)

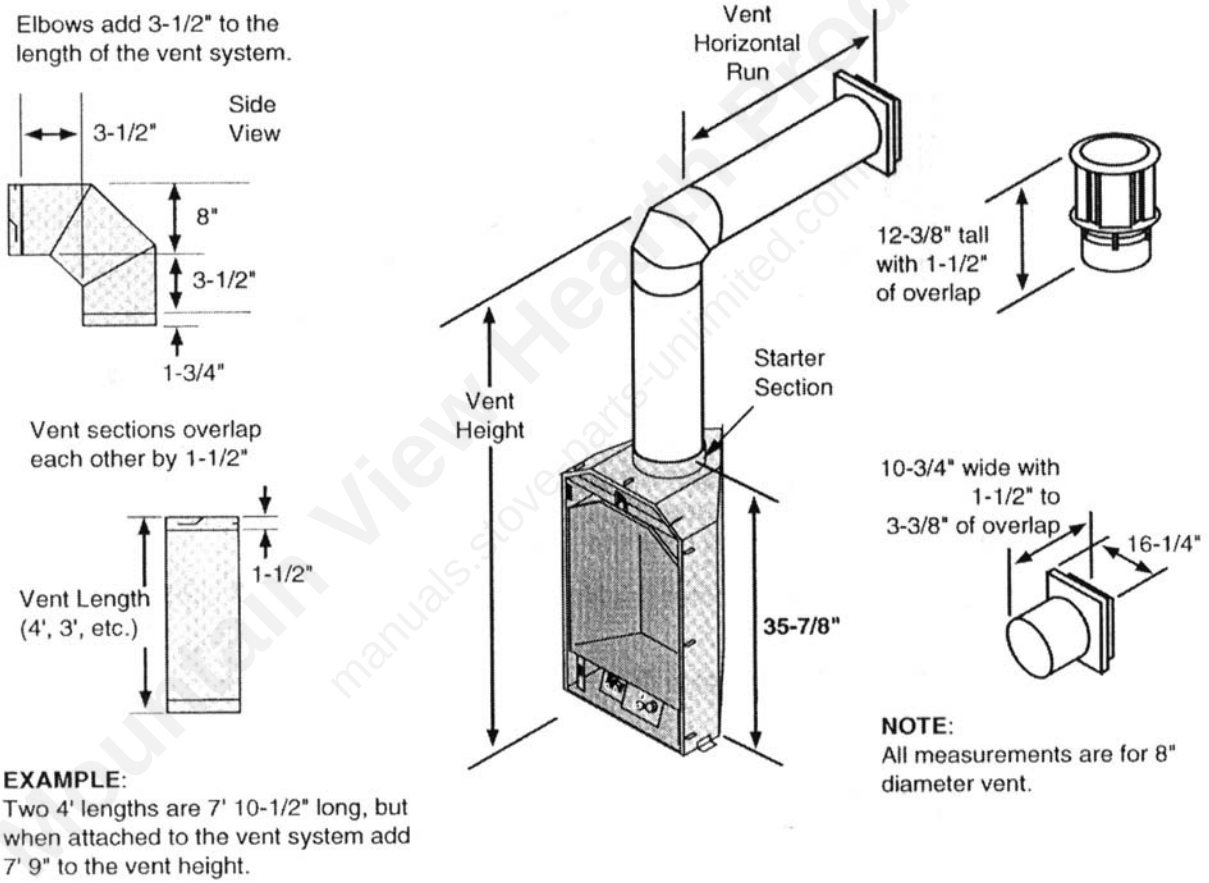
Exhaust - Vent
Intake - Vent (combustion air)

DVS Insert
- 3" Intake
- 3" Exhaust

DVL Insert
- 3" Intake
- 4" Exhaust

Flex Liner Label Flow Arrow

Measuring Vent Lengths



Direct Vent Gas Stove Venting

- Twist Lock connection.
- Air space clearance as required by individual application installations.
- Vertical and horizontal terminations allowed.
- High-temperature silicone must be used to seal the inner and outer flue (1/8" bead).
- 1/4" rise per foot of run is required.
- See installation directions for:
  - # of Elbows allowed
  - Restrictor Positioning
  - Exhaust Hood Clearances To Door and Window Openings
  - Vertical Termination Requirements
  - Max. and Min. Termination Height
  - Maximum System Offset
- Each GS Vent has a 1 - 1/2" overlap.

Gas Stove Venting

- Direct vented stoves must exit to the outside of the building and never be connected to a solid fuel burning chimney or another gas appliance vent. Each direct vent gas appliance must use its own separate vent system.

- Horizontal sections require non-combustible support every 3' (i.e. Plumber's strap).

Termination Requirements

NOTE: Measure all clearances from the nearest edge of the exhaust hood

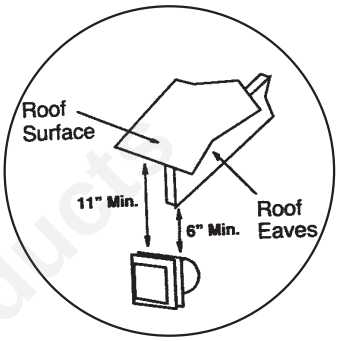
A - Minimum 9” clearance from any door or window

B - Minimum 12” above any grade, veranda, porch, deck or balcony

C - Minimum 3-3/8” from outside corner walls

D - Minimum 0” from inside corner walls

E - Minimum 11” clearance below unventilated soffits or roof surfaces
Minimum 18” clearance below vented soffits
Minimum 6” clearance from roof eaves
NOTE: Vinyl surfaces require 24”



F - Minimum 18” clearance below a veranda, porch, deck or balcony (must have two open sides)

G - Minimum 48” clearance from any adjacent building

H - Minimum 84” clearance above any grade when adjacent to public walkways or driveways
NOTE: May not be used over a walkway or driveway shared by an adjacent building

I - Minimum 48” clearance from any mechanical air supply inlet

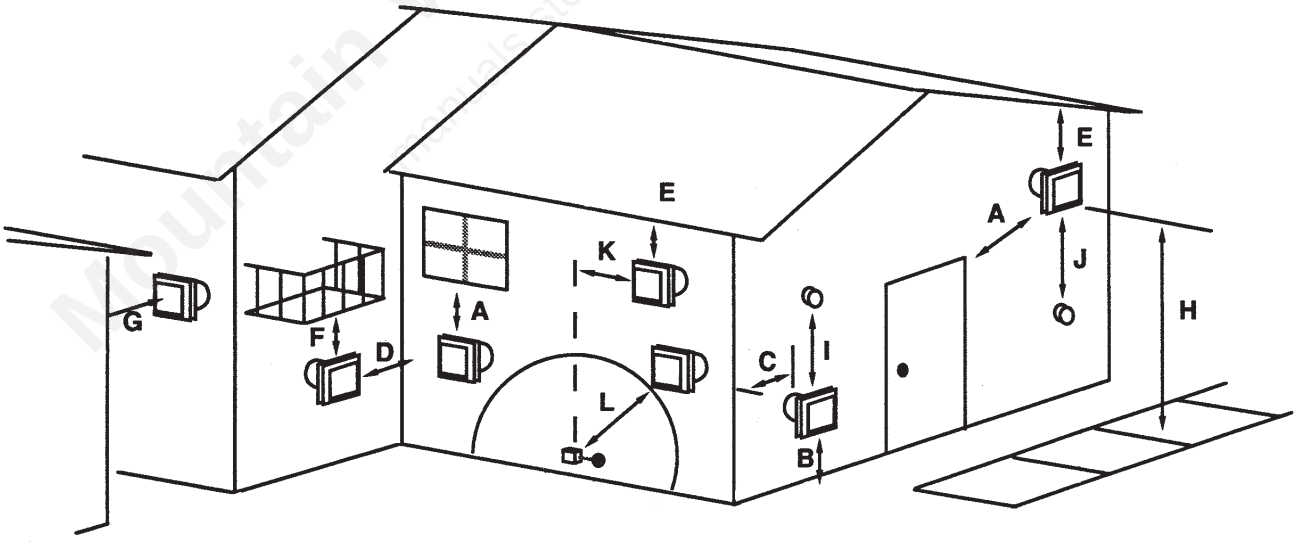
J - Minimum 36” clearance above and 48” below and to the sides of non-mechanical air supply inlet

K - Minimum 36” from the area above the meter/regulator (vent outlet)

L - Minimum 36: from the meter/regulator (vent outlet)

M - Minimum 24” above the roof line (for vertical terminations)

N - Minimum 24” horizontal clearance to any surface (such as an exterior wall) - for vertical terminations



NOTE: Measure clearances to the nearest edge off the exhaust hood

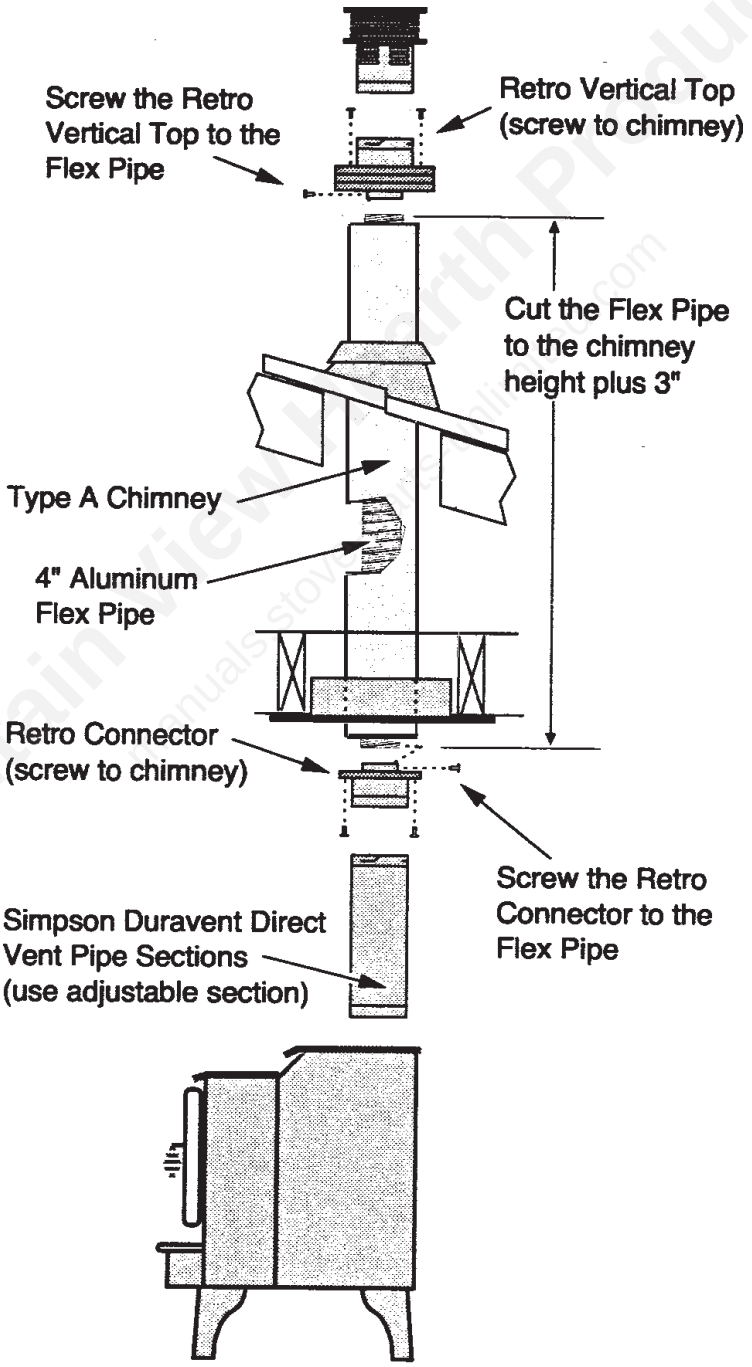
* Use the vinyl siding standoff (#950) when installing on an exterior with vinyl

• Vent termination must be located where it will not become plugged by snow or other material

• Venting termination shall not be recessed into a wall or siding.

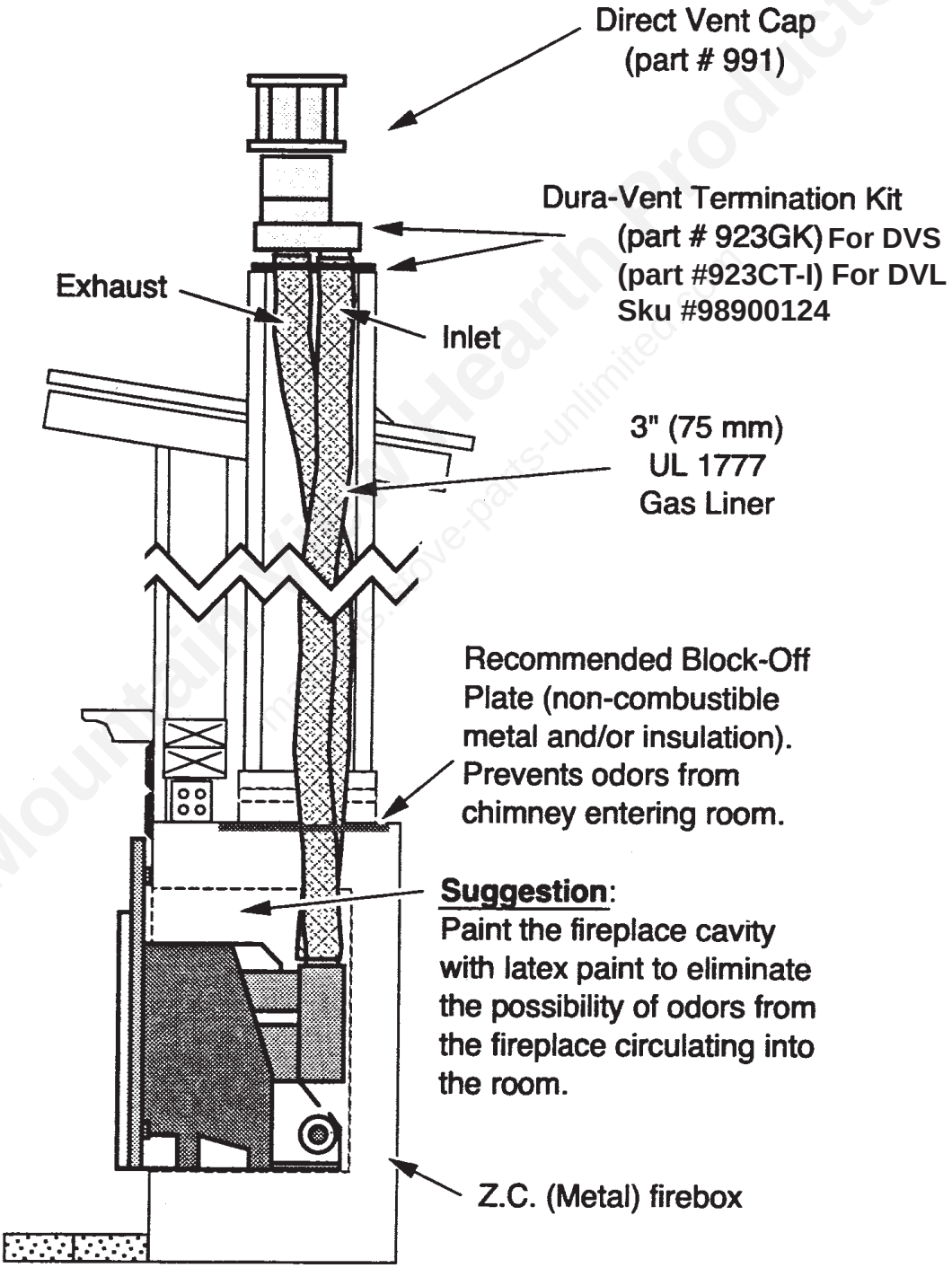
• These clearances meet UMC-1994 and the CNA/CGA-B149 code standards

Direct Vent Into Class "A" Chimney



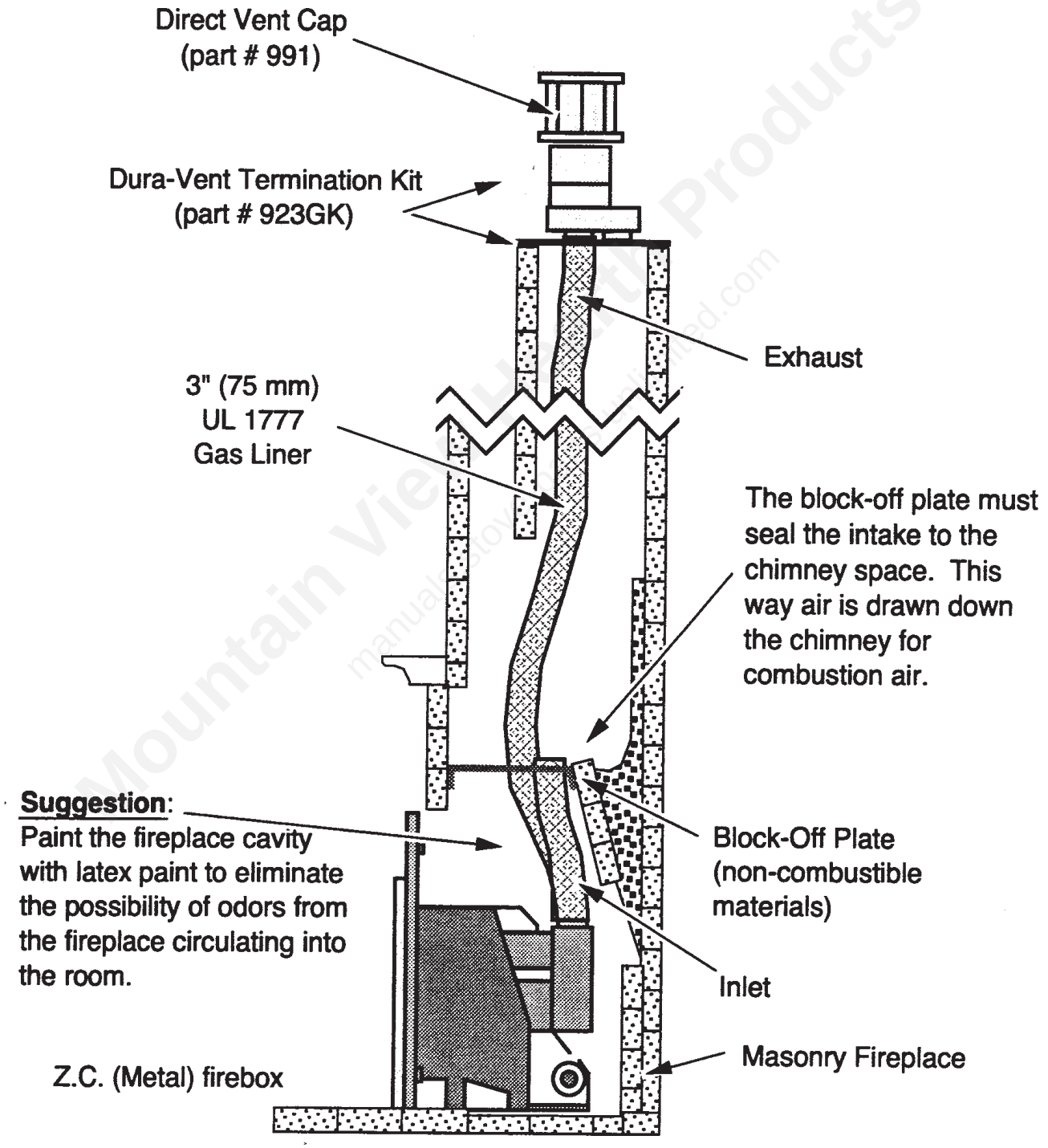
Insert Direct Vent Options

Inlet & Exhaust Re-Line



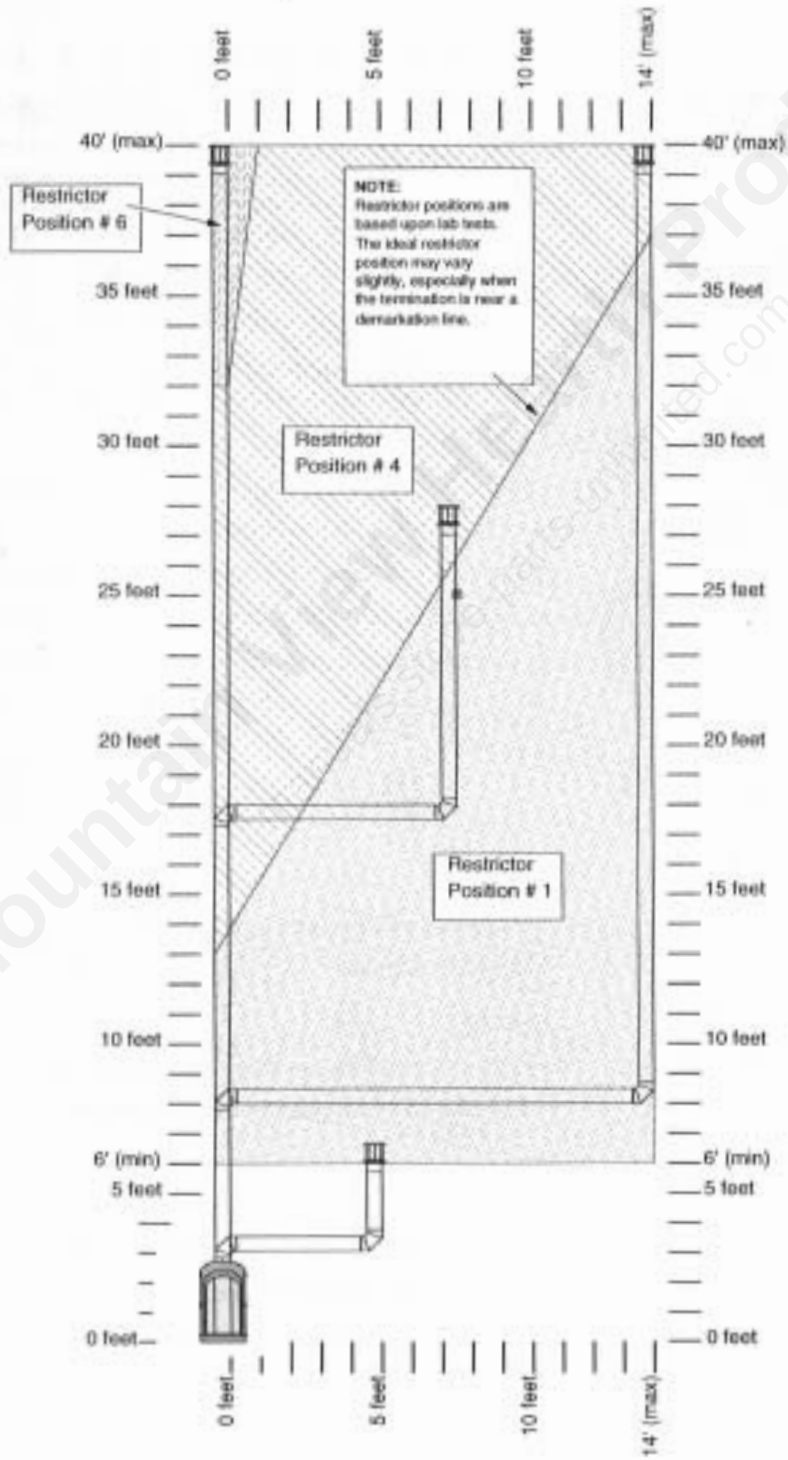
Insert Direct Vent Options

Exhaust Only Re-Line



Vent Configuration with Vertical Vent Termination

- The termination must fall within the shaded area shown in the chart. Use the indicated restrictor po
- A maximum of 3 elbows may be used.



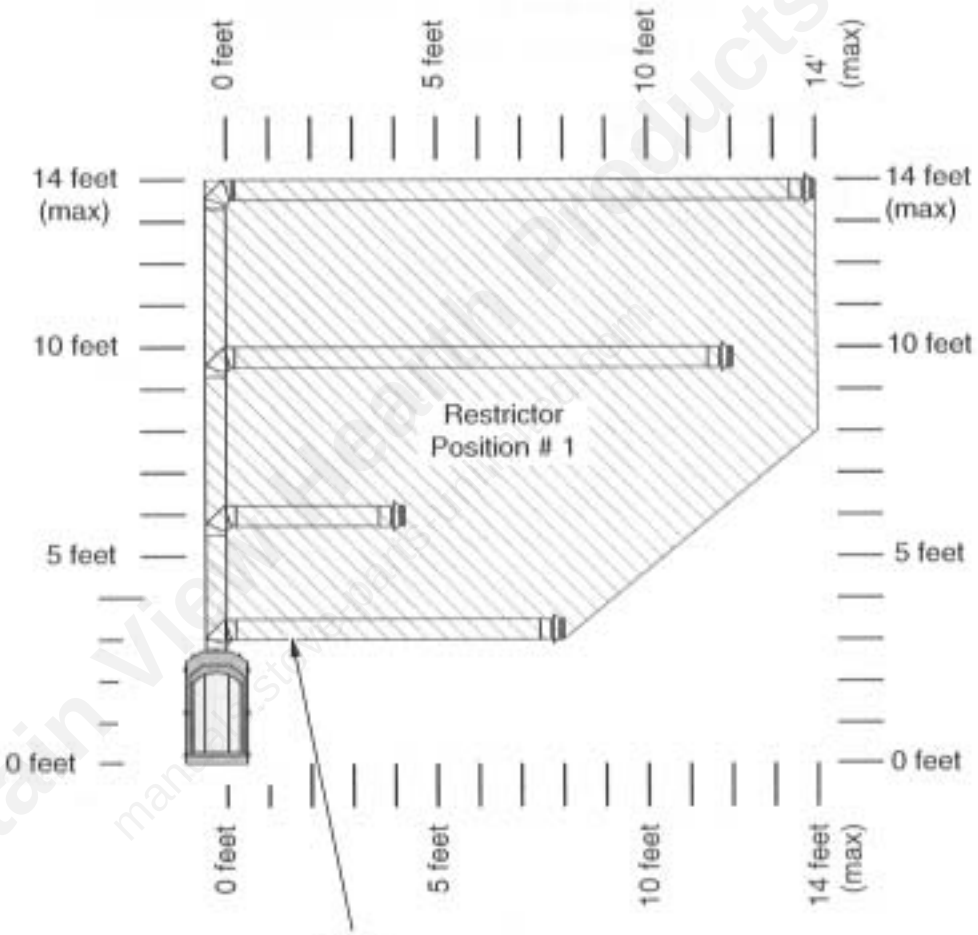
NOTE:
One 45° or 90° elbow may be used between horizontal sections. Horizontal length is caculated by adding each horizontal run together.

NOTE:
Horizontal sections require a 1/4" rise every 12" of travel.

Horizontal Termination

Use a single 90° elbow (NOTE: an additional 45° elbow may be used on the horizontal run).

The termination must fall within the shaded area shown in the chart. Use the indicated restrictor position.



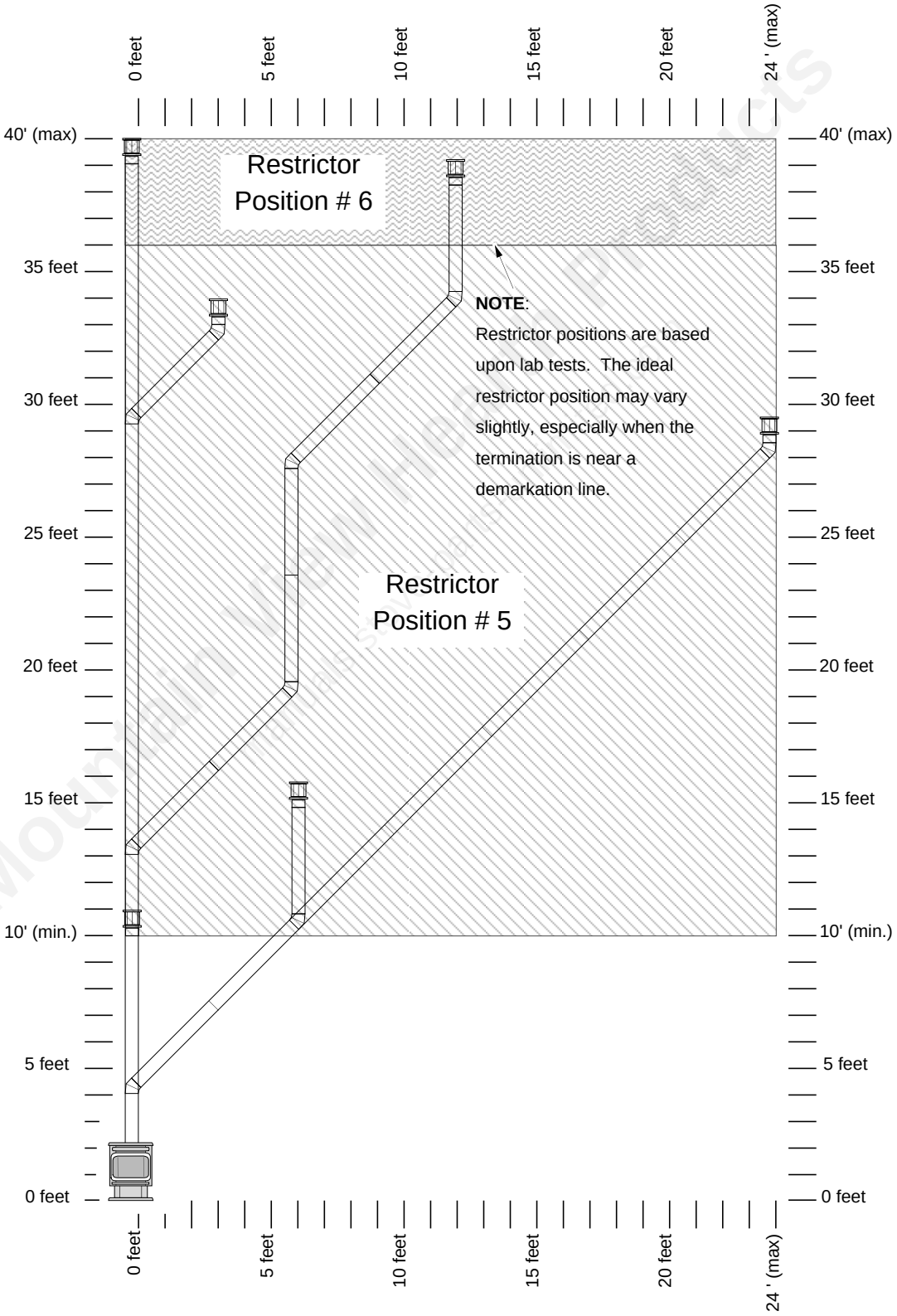
NOTE:

Horizontal sections require a 1/4" rise every 12" of travel.

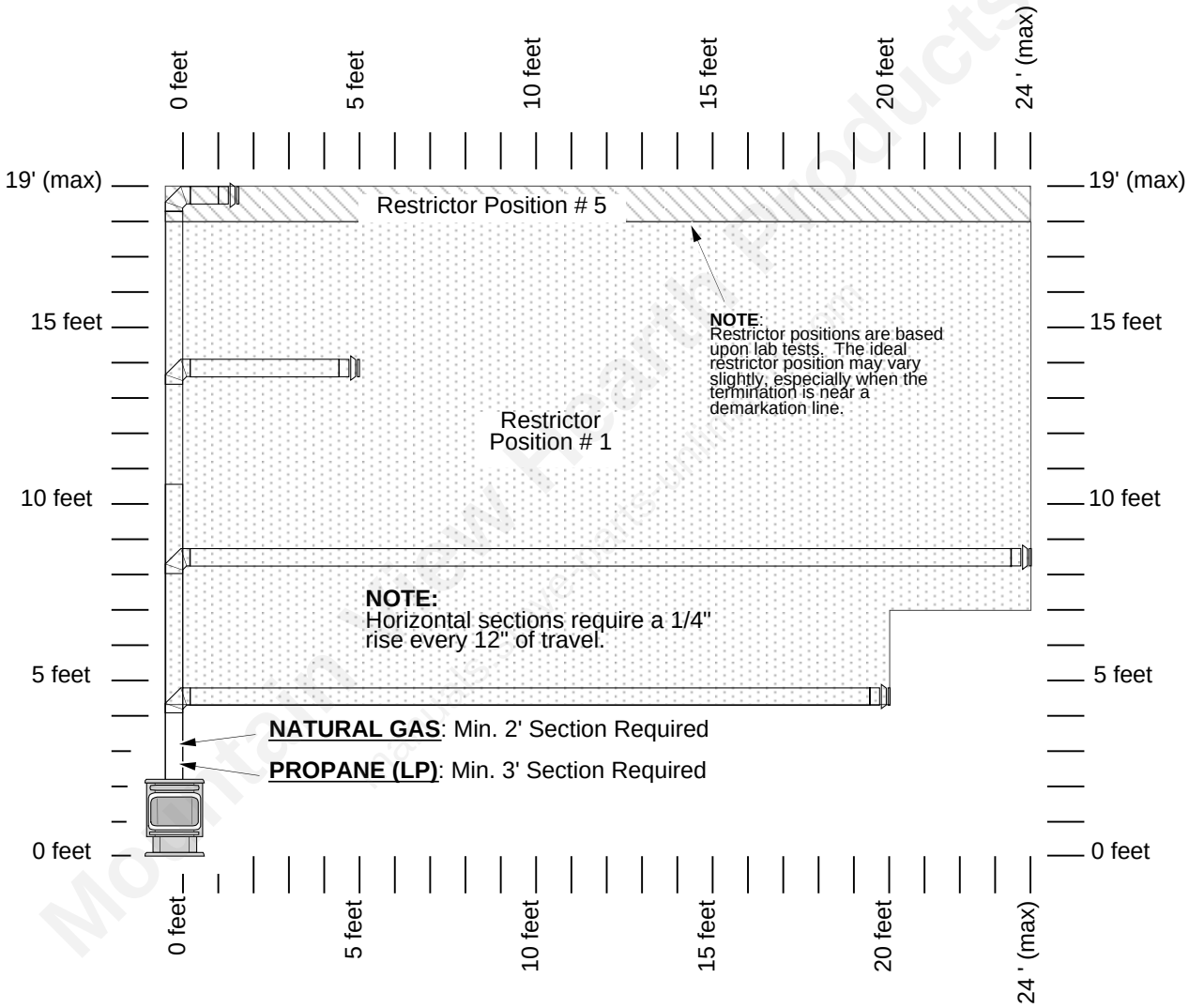
NOTE:

Restrictor positions are based upon lab tests. The ideal restrictor position may vary slightly.

Vertical Terminations with 0, 2, or 4 - 45˚ Offsets

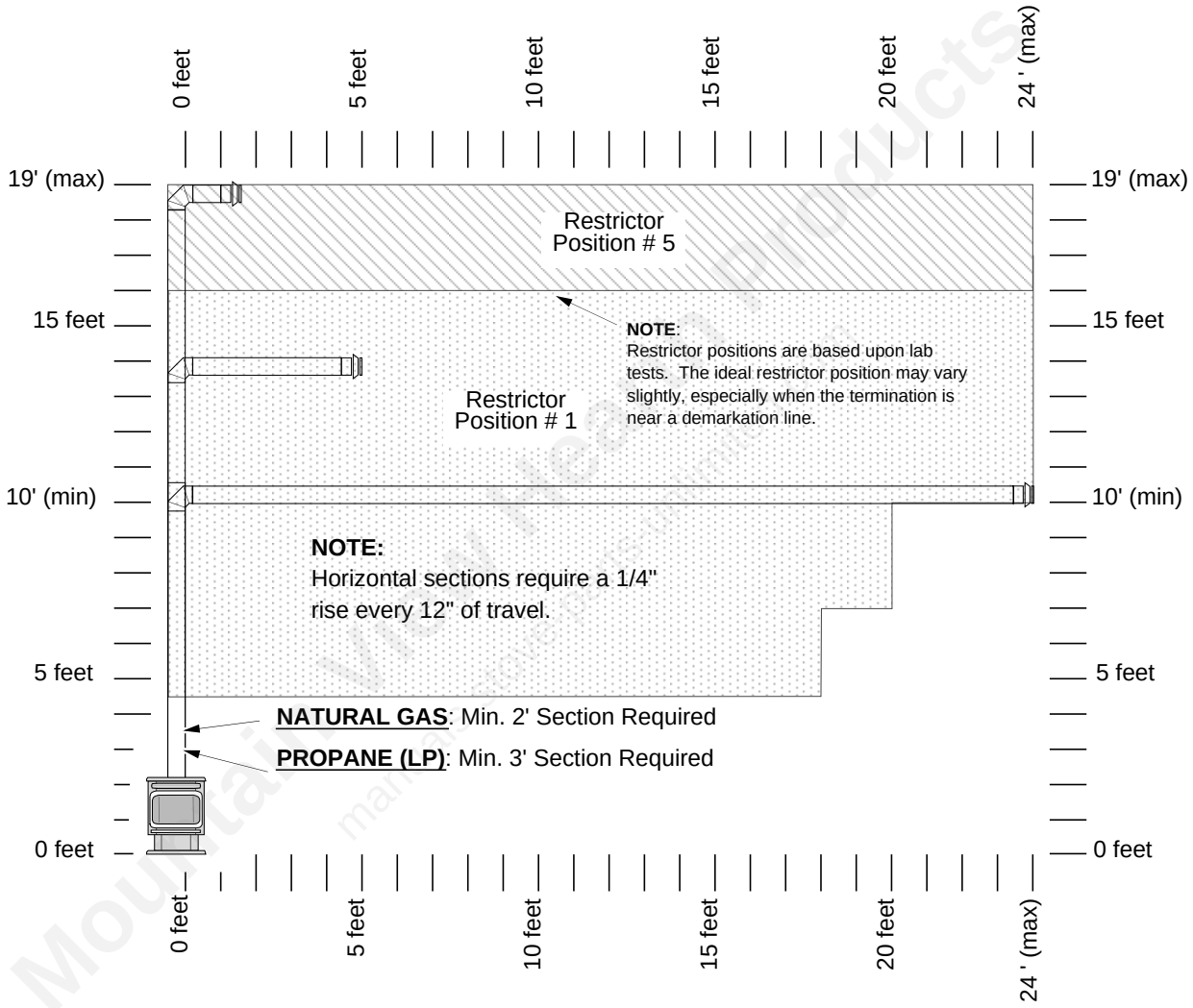


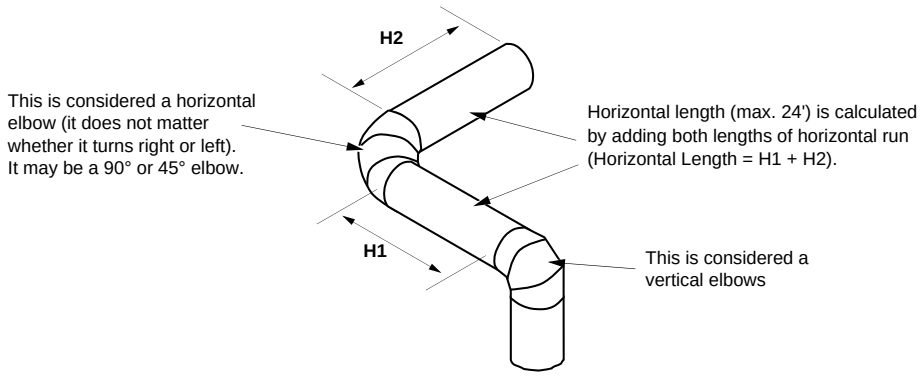
Horizontal Terminations with One 90˚ Offsets



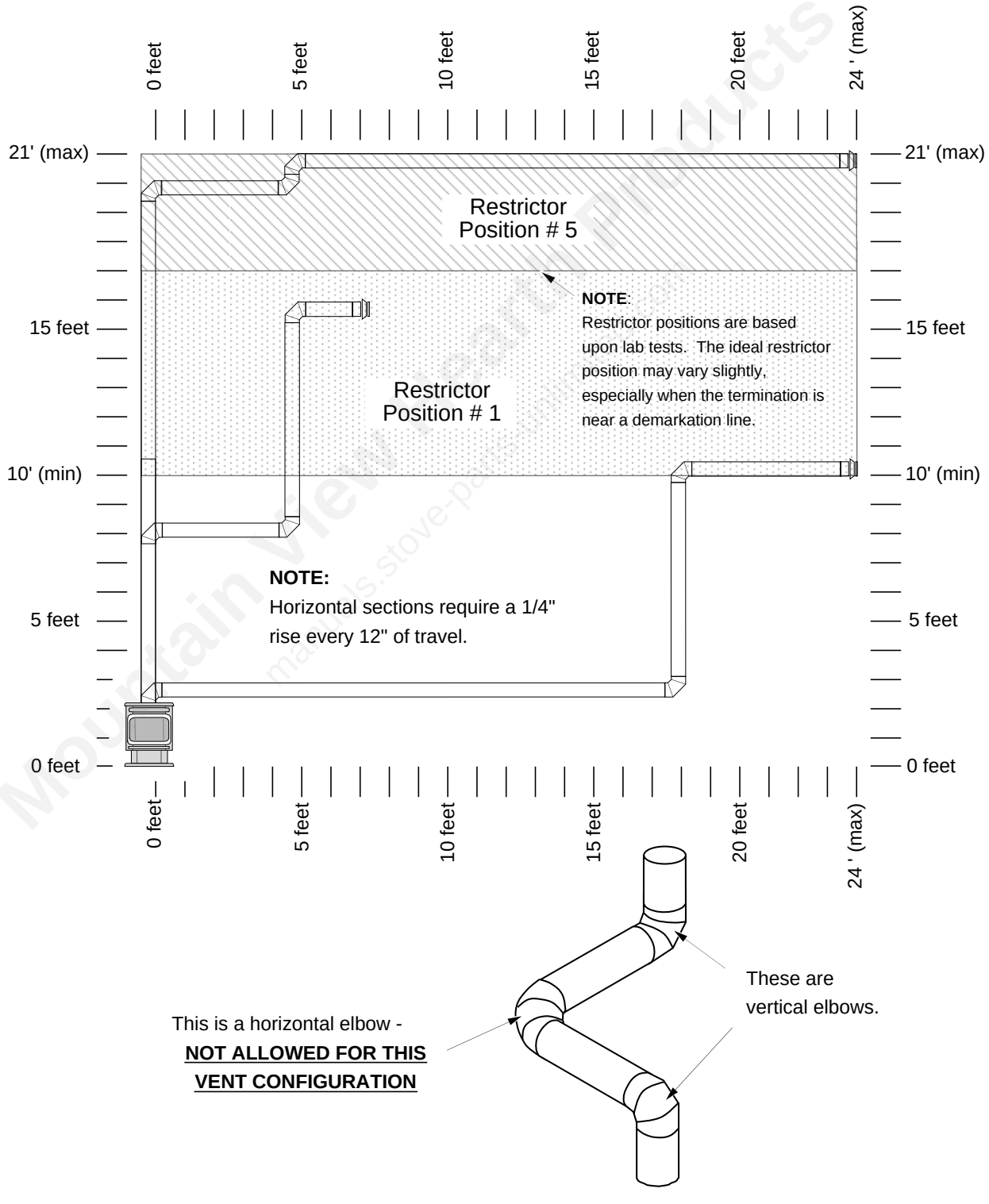
Approved Venting Configurations with a Horizontal Termination and Two Elbows

(one 90˚ vertical or 45˚ horizontal elbow)

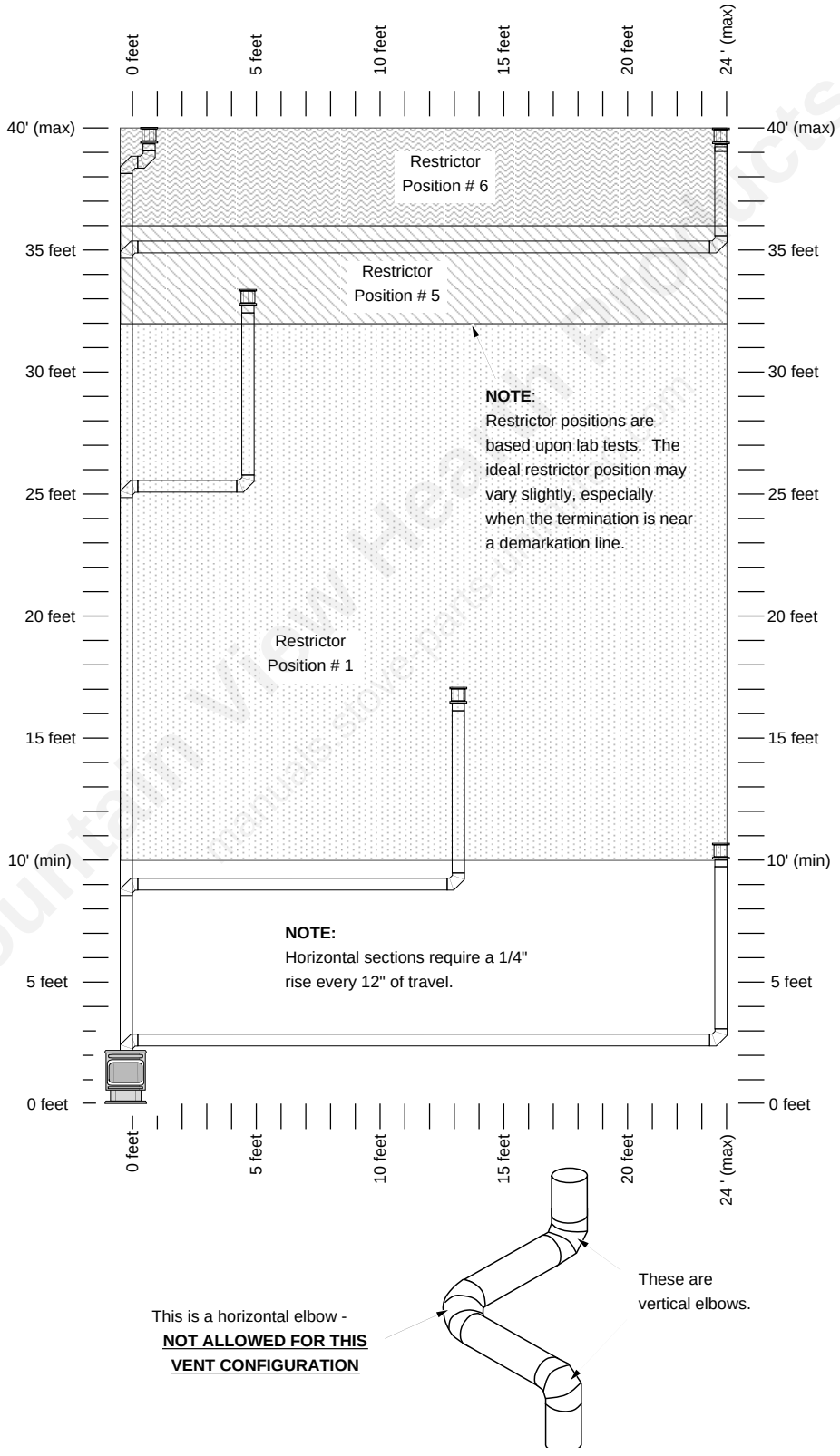




Approved Venting Configurations with a Horizontal Termination and Three 90˚Elbows (all vertical)

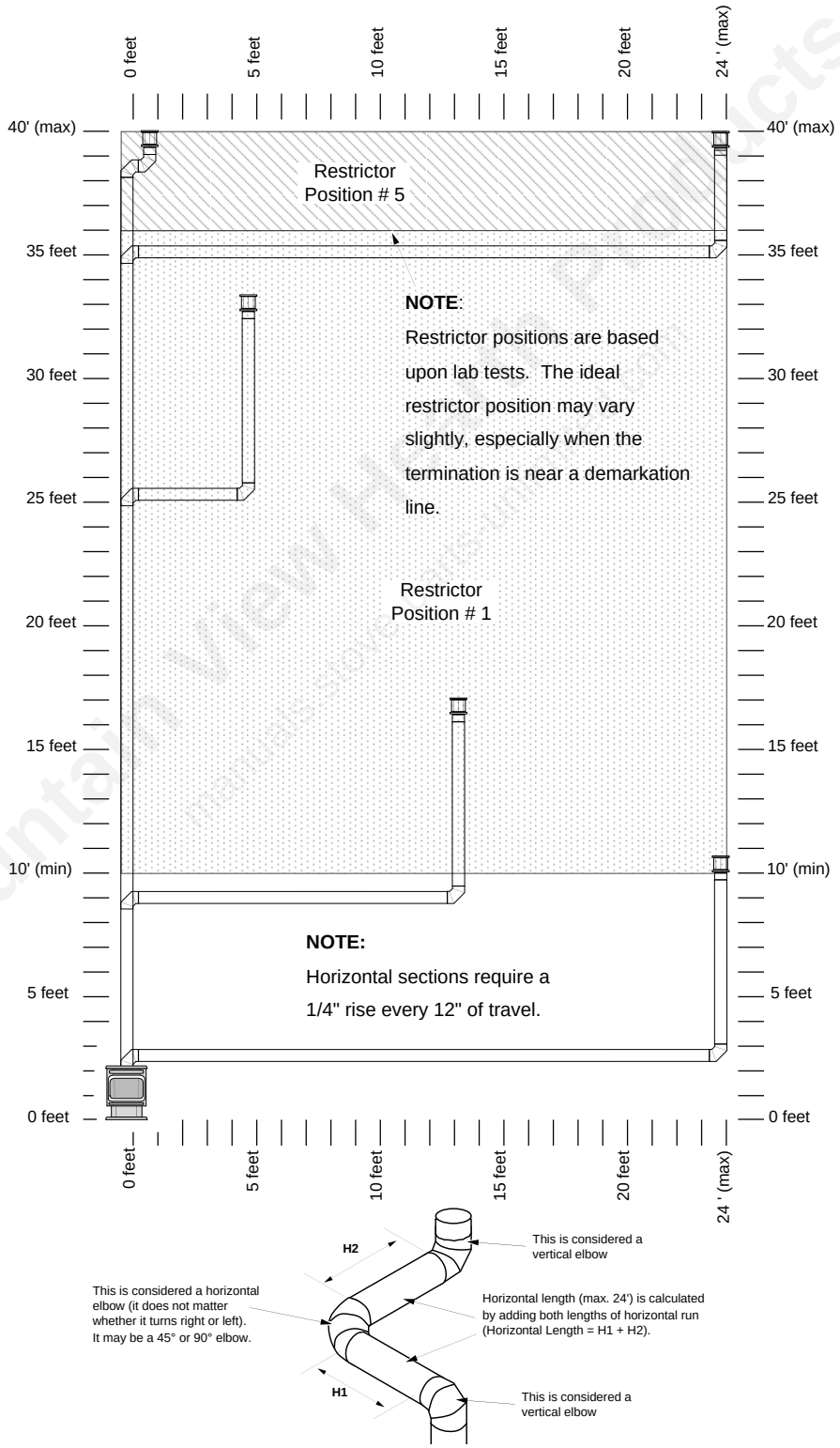


Vertical Venting Configurations with Two 90˚ Elbows

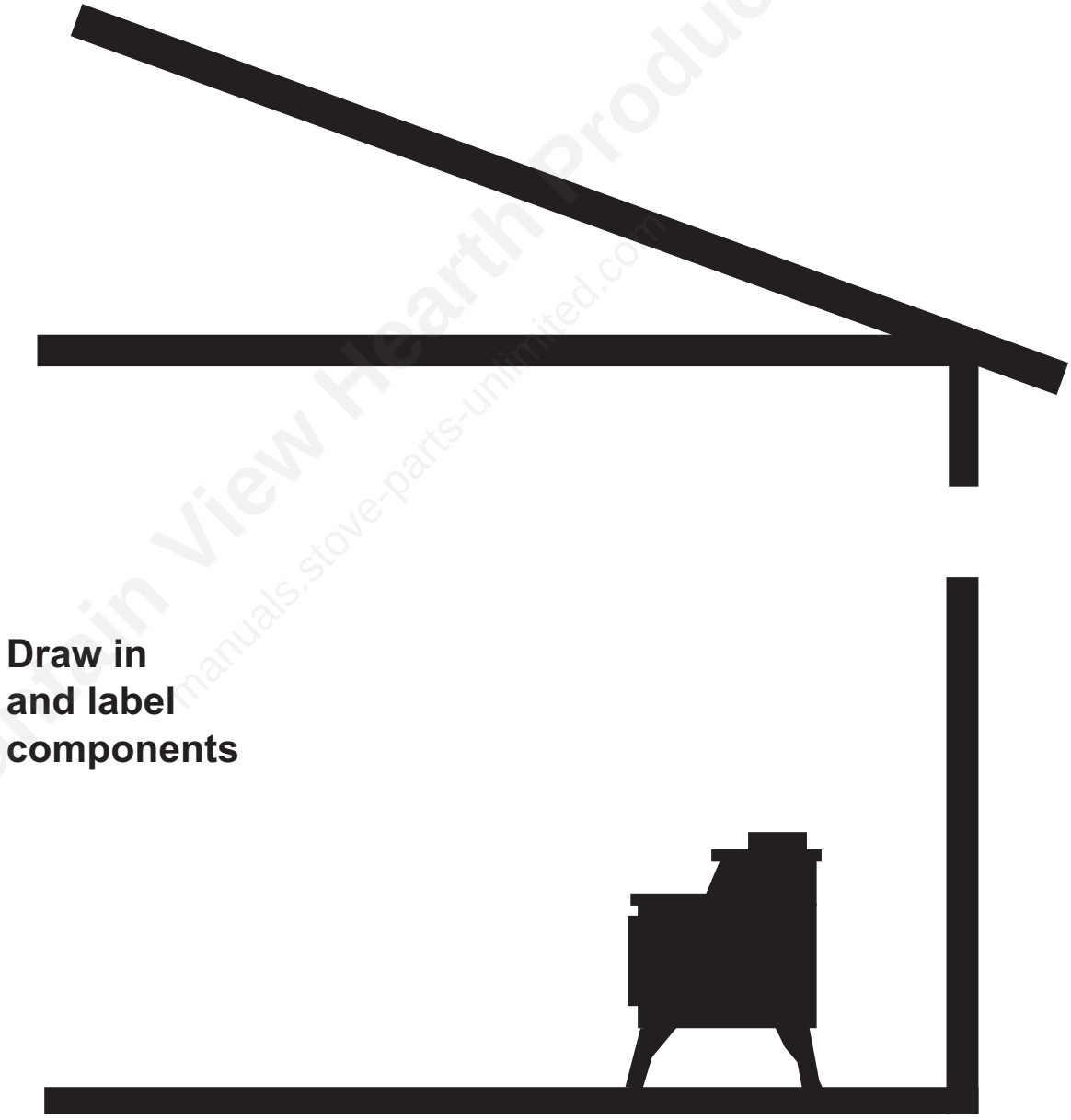


Approved Venting Configuration for Vertical Termination with Three 90˚ Elbows

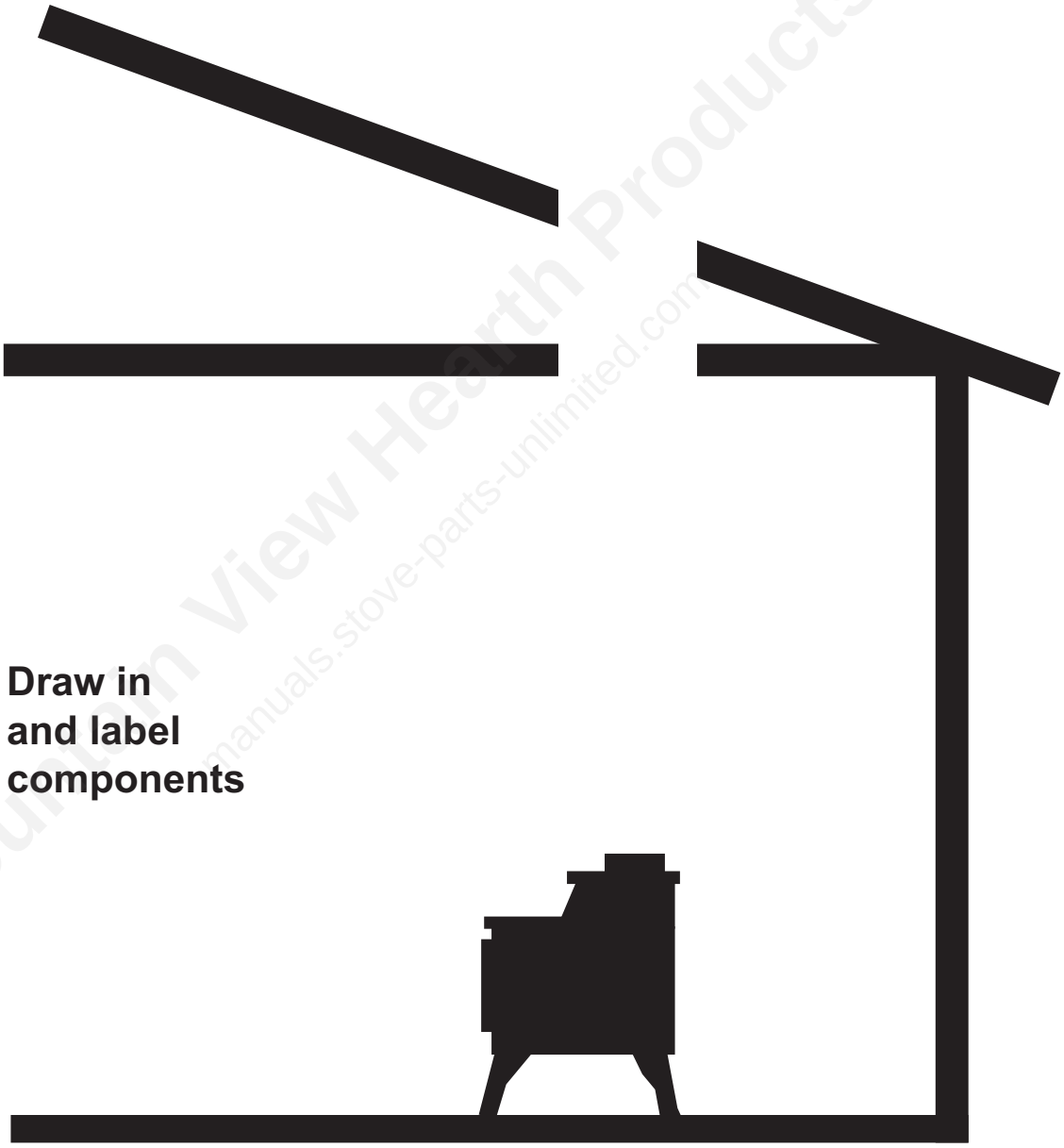
(Two 90 vertical and one 45˚ or 90˚ horizontal elbow)



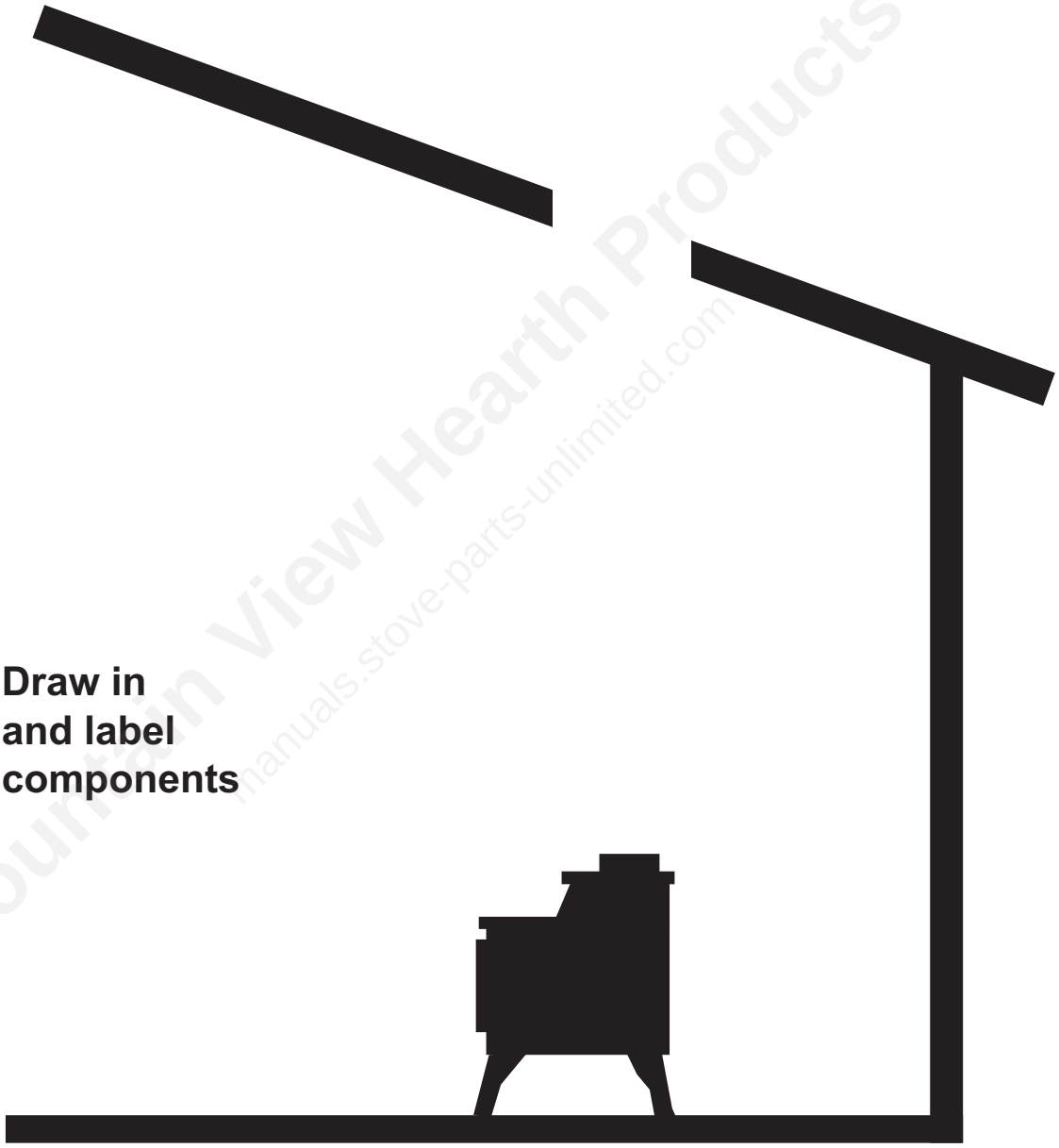
Direct Vent Horizontal Thru-The-Wall Penetration



Direct Vent
Ceiling Penetration



Direct Vent Cathedral Ceiling Penetration



MILLIVOLT SYSTEMS

TRAVIS INDUSTRIES
HOUSE OF FIRE

Millivolt Systems & Thermoelectric Energy

Millivolt Systems Advantages & Disadvantages

Function

Gas Valves

Gas Control Valve Operational Sequence

MILLIVOLT SYSTEMS

TRAVIS INDUSTRIES
HOUSE OF FIRE

- Millivolt systems control the operation of all gas appliances produced by Travis Industries. That have the SIT gas control valve in it.

- The flow of the fuel gas and safety shut-off are all controlled through the use of gas control valves. These gas control devices utilize thermoelectric energy to open and close the gas flow at the appropriate times during normal operation of the gas appliance.

- This thermoelectric energy is measured in millivolts. (1/1000 volt DC)

- Travis Industries uses the SIT gas control millivolt valve.

- Note: Older appliances used RobertShaw gas control valves

MILLIVOLT SYSTEMS

TRAVIS INDUSTRIES
HOUSE OF FIRE

- A standing pilot or millivolt system utilizes thermal-electric energy to operate all functions of the gas valve.

- Millivolt systems utilize a pilot light to function as a safety monitor - if the pilot goes out, the safety system closes all gas flow to the gas valve.

- The pilot light is also used to safely light the main burner.

- Millivolt systems require no outside electrical source for operation (110V household current).

MILLIVOLT SYSTEMS

TRAVIS INDUSTRIES
HOUSE OF FIRE

ADVANTAGES +	DISADVANTAGES -
• Works when electricity is off • Tried and long term proven ignition system • Repair costs are very minimal	• Electrical resistance problems can cause performance concerns • Not understood by many non-hearth gas service people or other tradespeople ie. Gas Co., HVAC Electricians, Etc.

Functions of the Millivolt Gas Control Valve

- Controls Gas Flow
- Maintains A Standing Pilot
- Turns ON the Burner When Called For
- Powered By:

    Thermocouple - Powers Safety Pilot (EPU - Electromagnetic Power Unit)

    Thermopile - Powers Burner Operation

RobertShaw Gas Control Valve
Used on all older gas appliances

SIT Gas Control Valve
Used on most new gas appliances

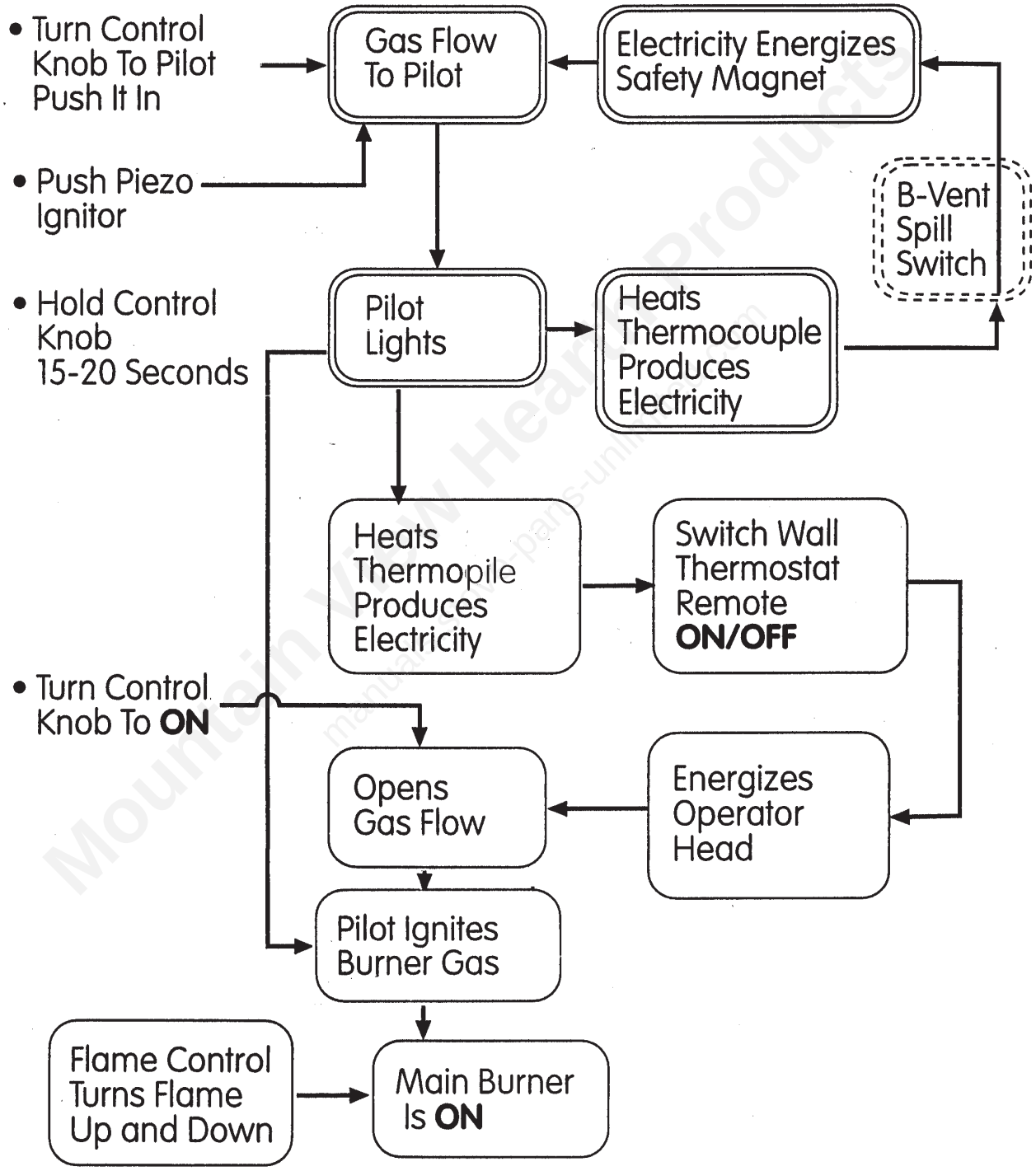
Gas Valves

- Gas valves used in residential applications have a maximum inlet pressure of 1/2 PSI or 14 inches of water column.
- Higher pressure created by air pressure leakage test or high gas pressure will cause permanent valve damage.
- Make sure the gas valve is segregated from any piping systems undergoing an air pressure leakage test.
- Gas valves seldom become defective, yet they are the most commonly replaced component by technicians.
- The gas valve will continue to work unless it has been exposed to one of the following highs:

  HIGH PRESSURE
  HIGH VOLTAGE
  HIGH WATER (Flooded)
  HIGH TEMPERATURE

- Always replace defective gas valves with complete new valves of the same kind.

Gas Control Valve Operational Sequence



IPI System

TRAVIS INDUSTRIES
HOUSE OF FIRE

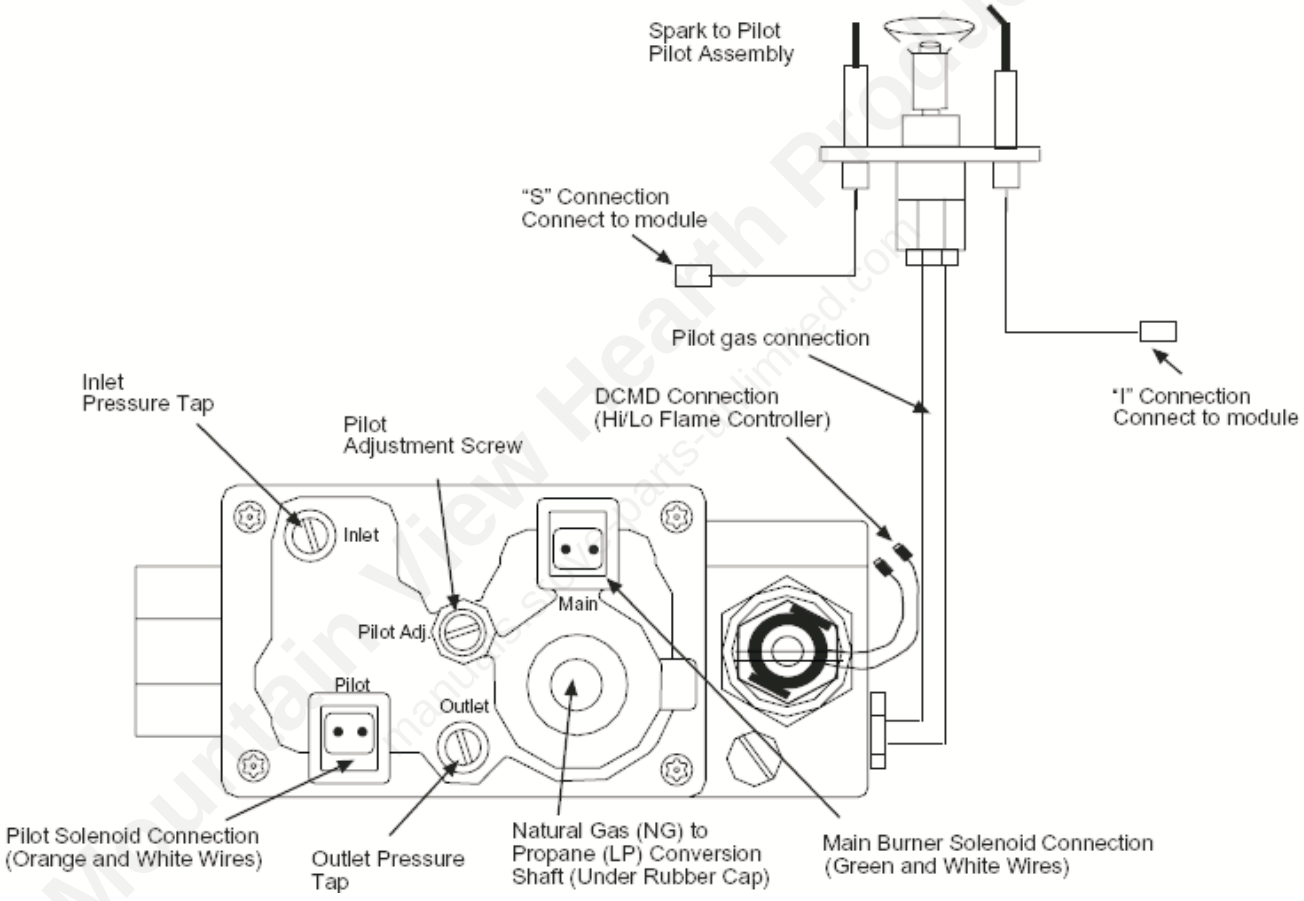
IPI How It Works

IPI Controls

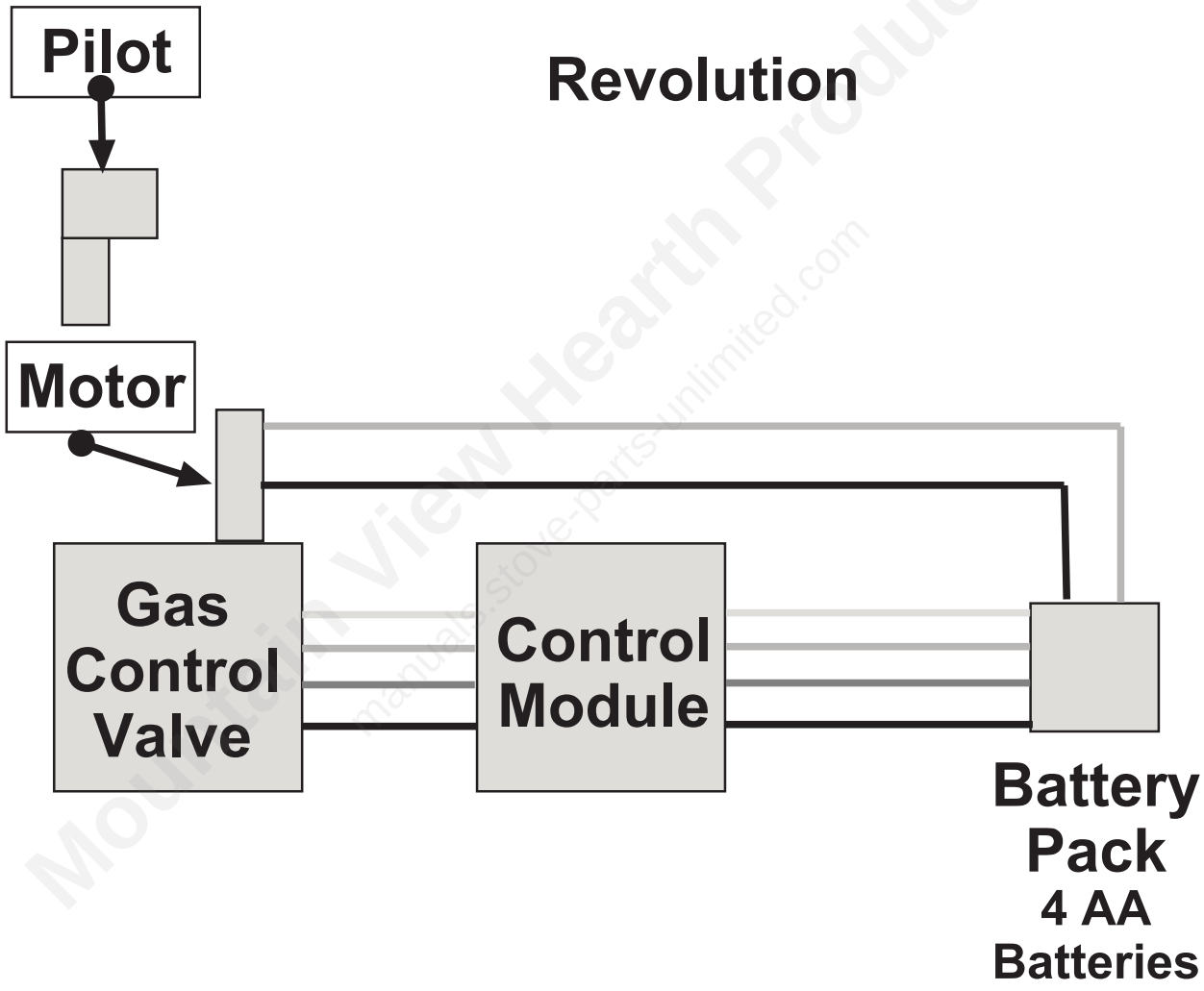
IPI Troubleshooting

Gas Control Valve

IPI Electric Ignition System

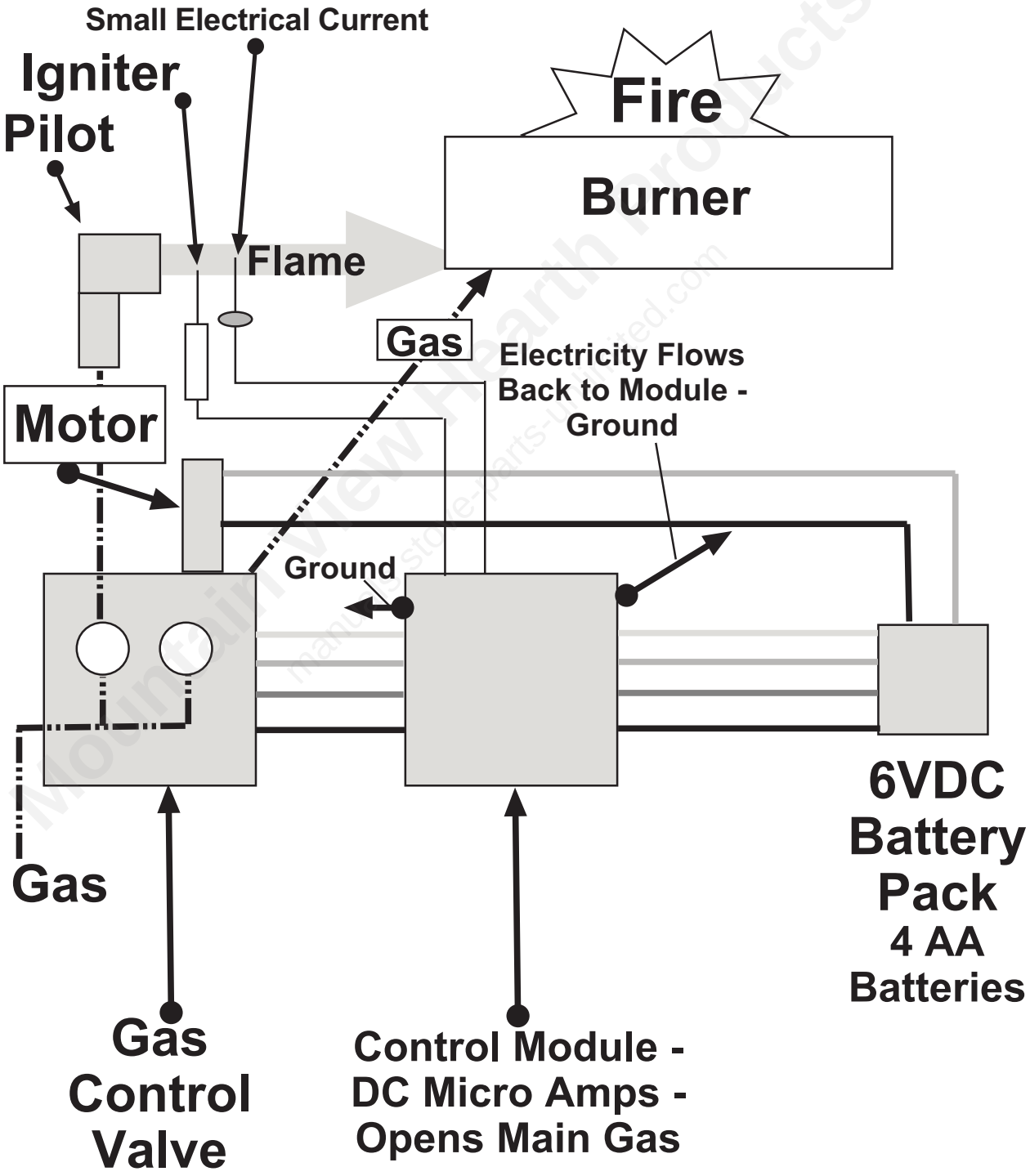


IPI Troubleshooting



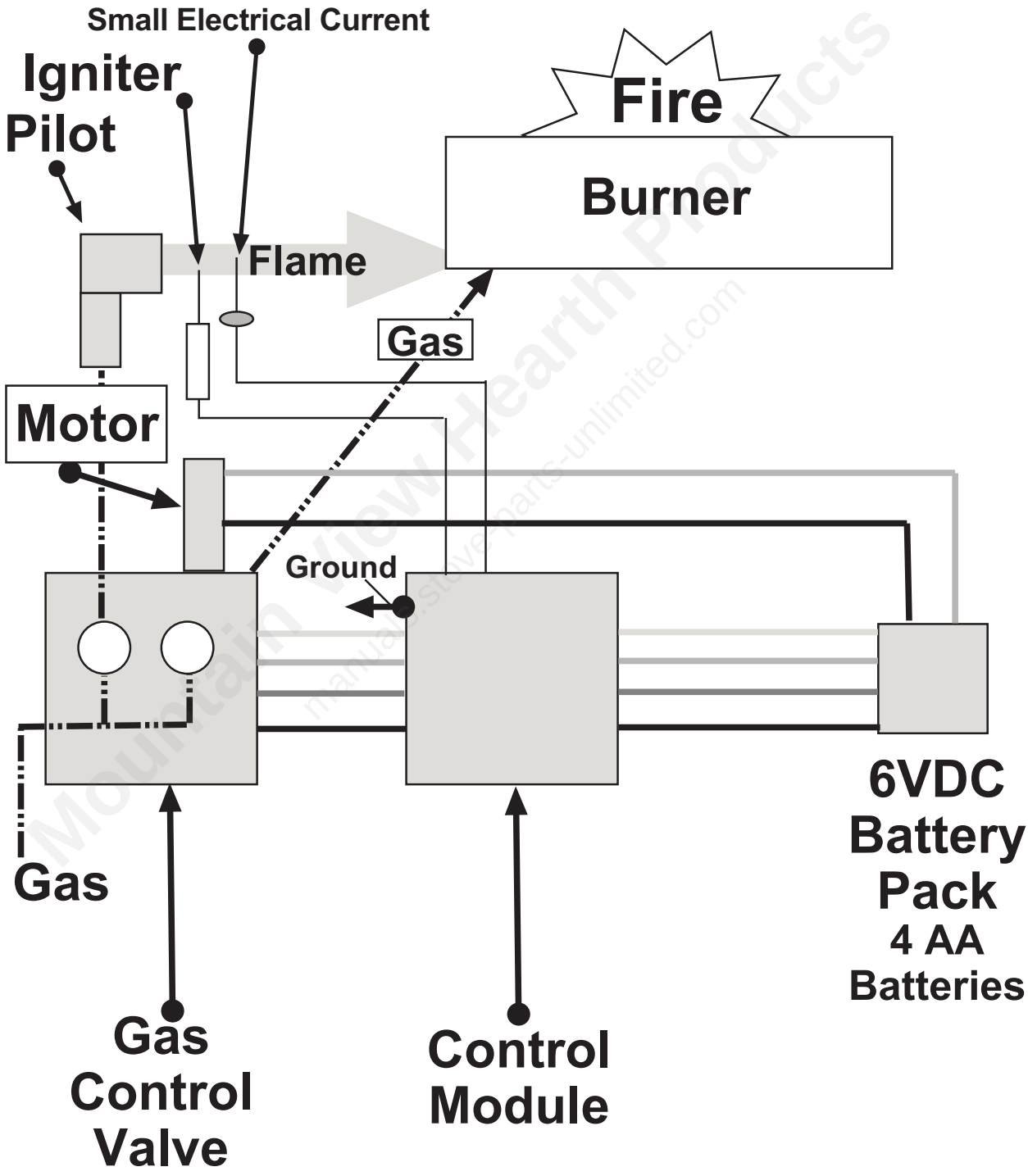
IPI Troubleshooting

Flame Rectification



IPI Troubleshooting

Revolution

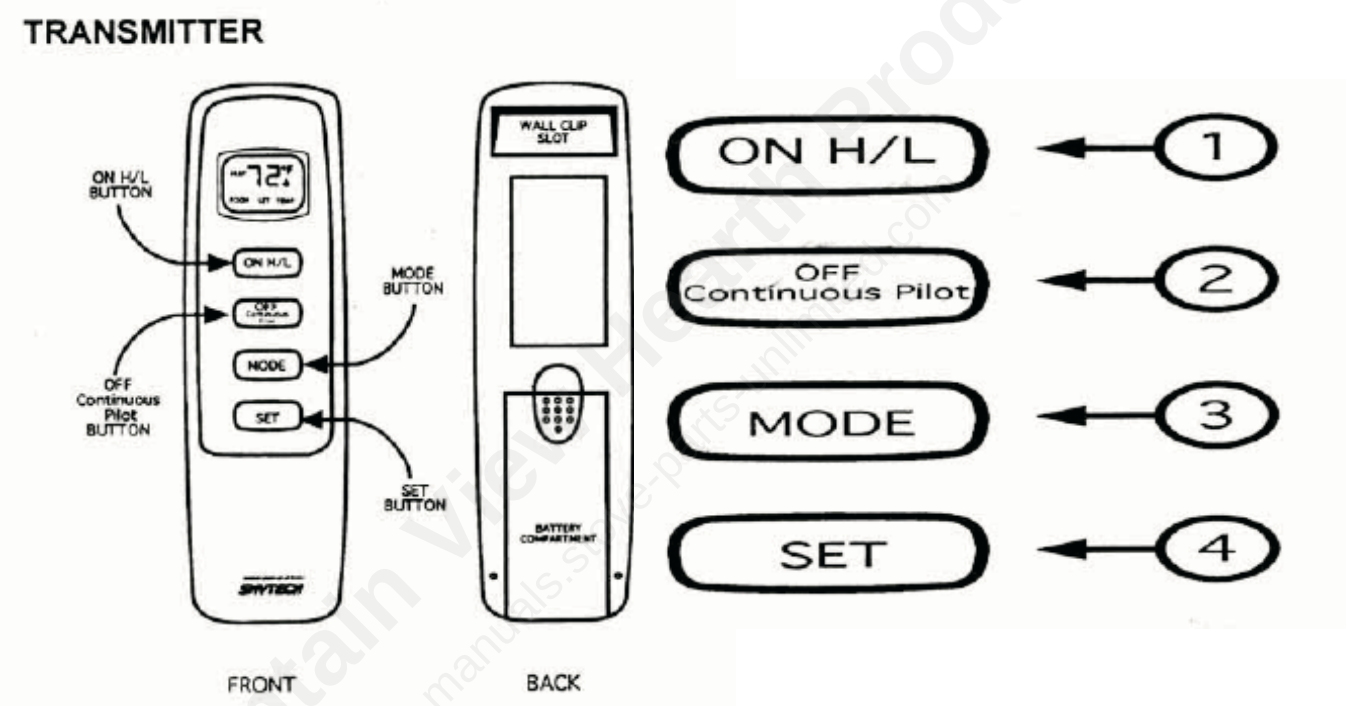


Revolution- Fireplace Xtrordinair

Hand-Held Remote

Modulating Wall Switch

Fireplace Xtrordinair- Revolution 36 CF, 36 Pier, 36 See-Thru & 1080 CF

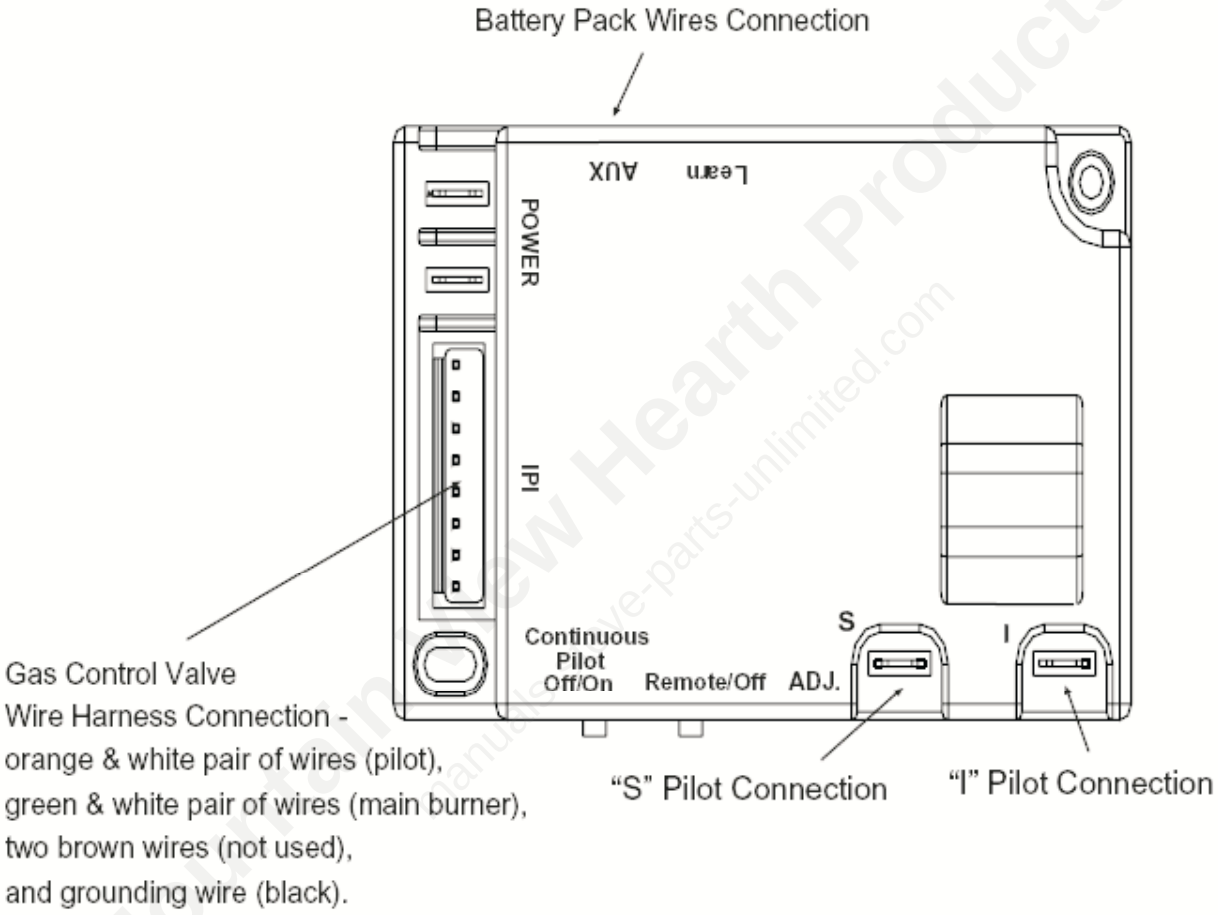


KEY SETINGS

- ON H/L - Operates unit to on position, Manually ON.
- OFF - Operates unit to off position, Manually OFF.
- ON H/L + OFF - Changes unit from Centigrade to Farenheit.
- ON H/L + MODE - Changes turns Child Proof on and off.
- MODE - Changes unit from manual mode to thermo mode.
- SET - Sets temperature in thermo mode.

Fireplace Xtrordinair- Revolution 36 CF, 36 Pier, 36 See-Thru & 1080 CF

Controls

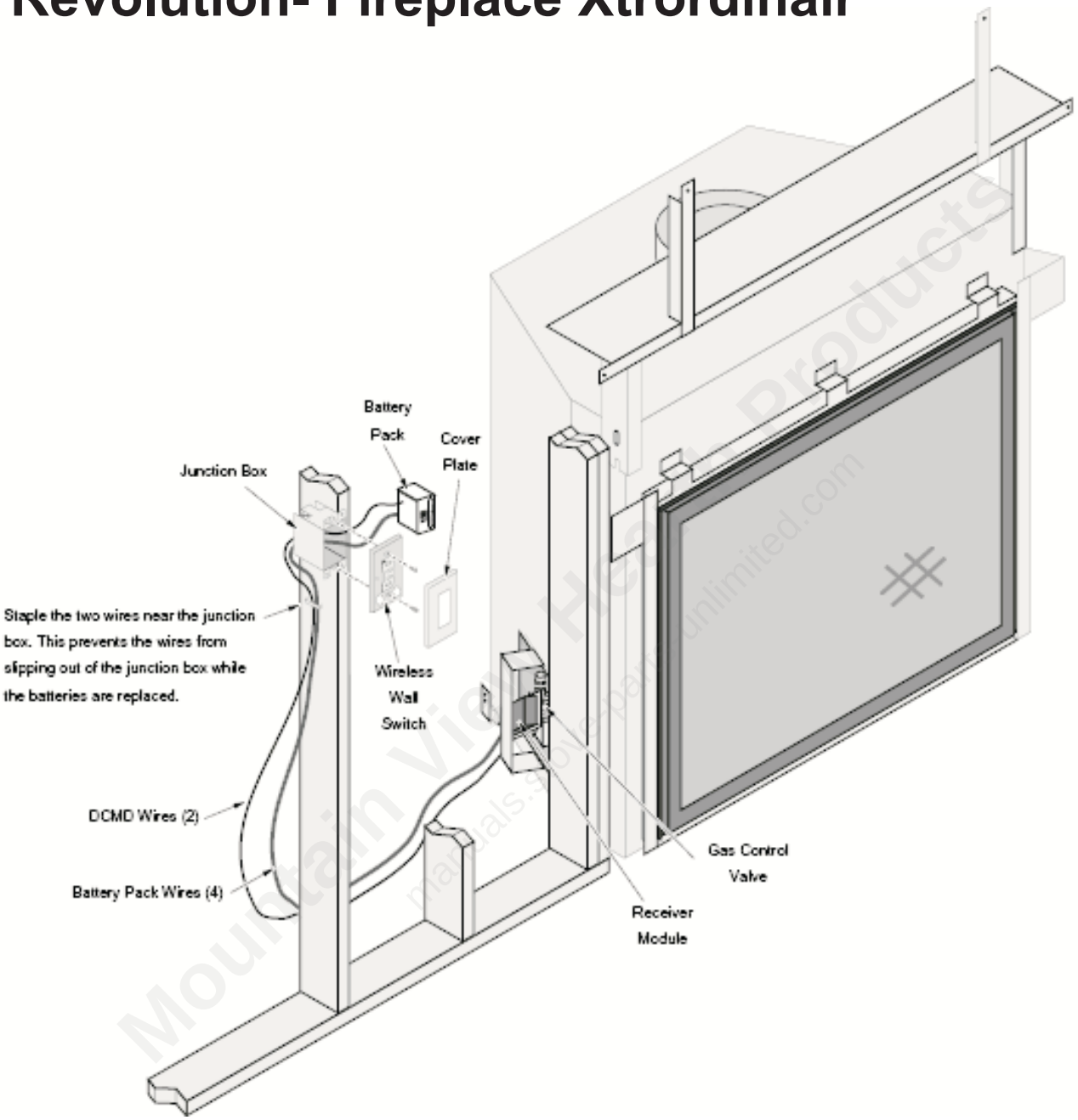


KEY SETINGS

- ON H/L - Operates unit to on position, Manually ON.
- OFF - Operates unit to off position, Manually OFF.
- MODE - Changes unit from manual mode to thermo mode.
- SET - Sets temperature in thermo mode.

TRAVIS INDUSTRIES
HOUSE OF FIRE

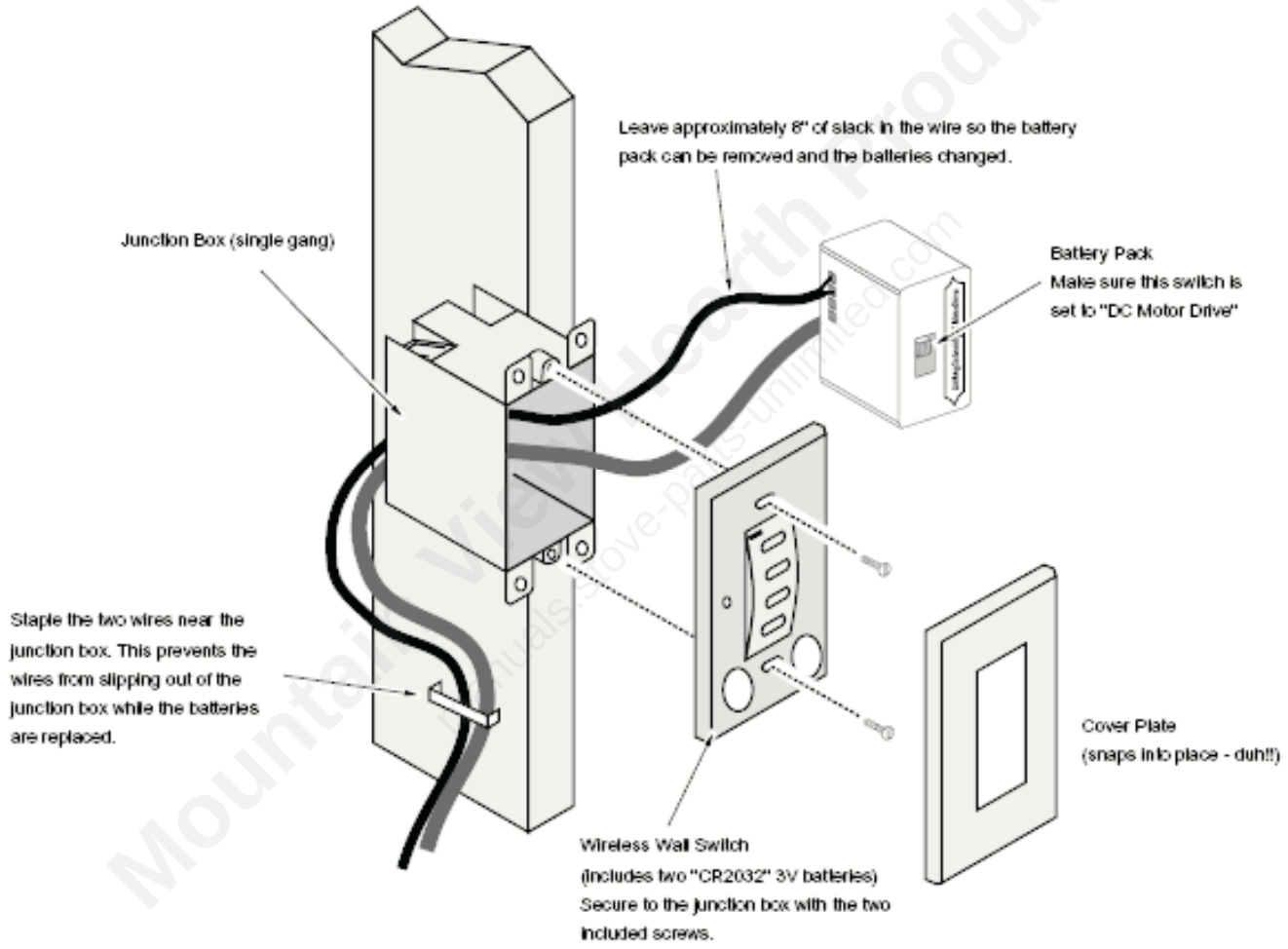
Revolution- Fireplace Xtrordinair



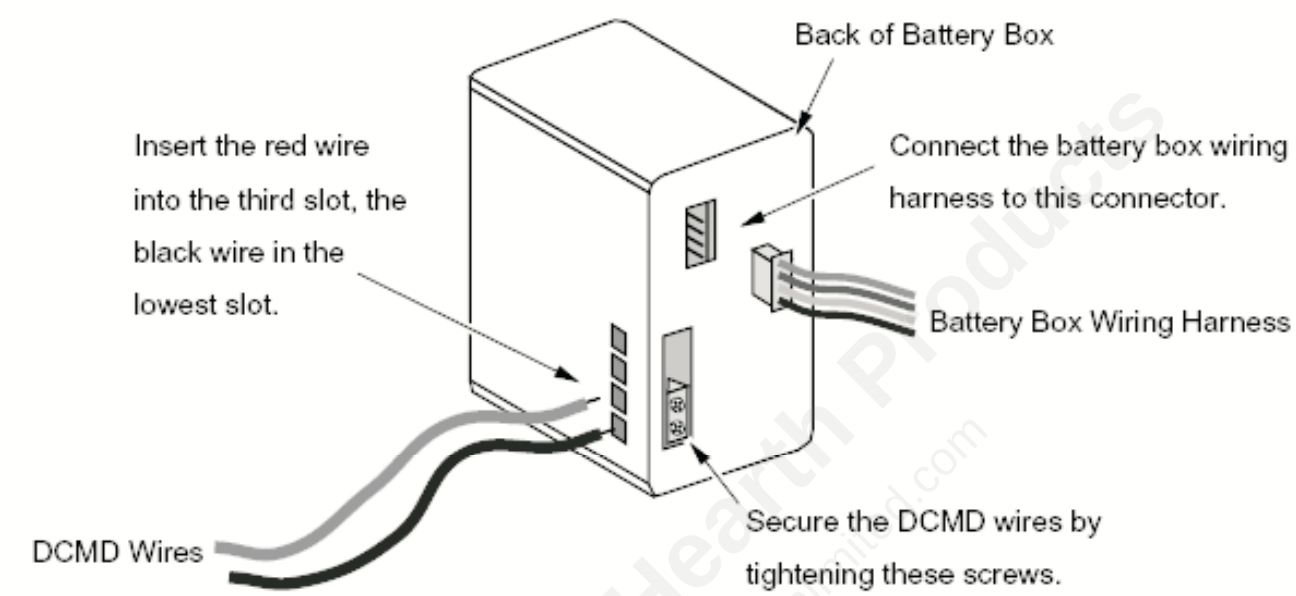
KEY SETINGS

- ON H/L - Operates unit to on position, Manually ON.
- OFF - Operates unit to off position, Manually OFF.
- MODE - Changes unit from manual mode to thermo mode.
- SET - Sets temperature in thermo mode.

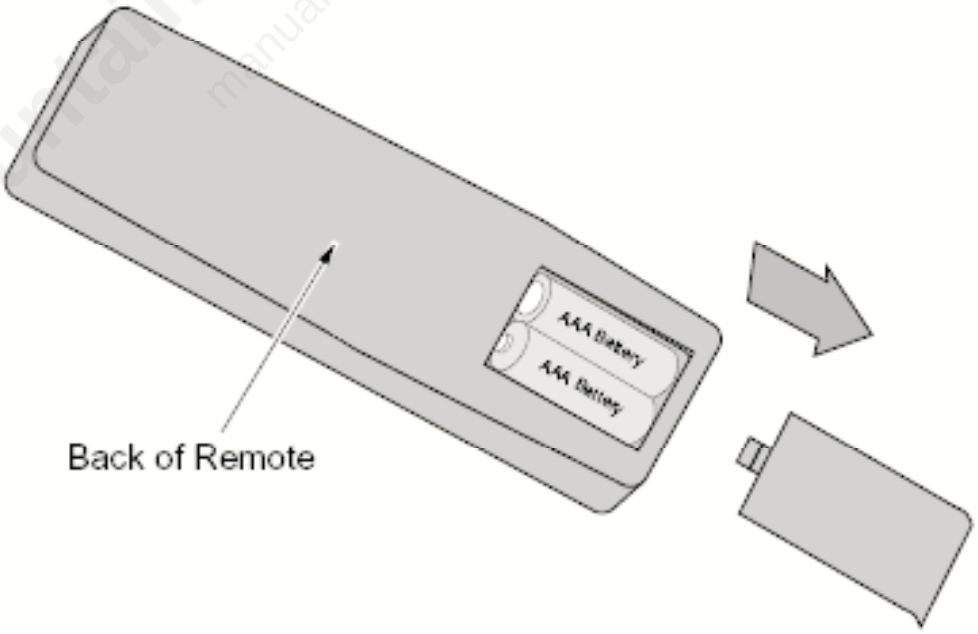
Revolution- Fireplace Xtrordinair



Revolution- Fireplace Xtrordinair

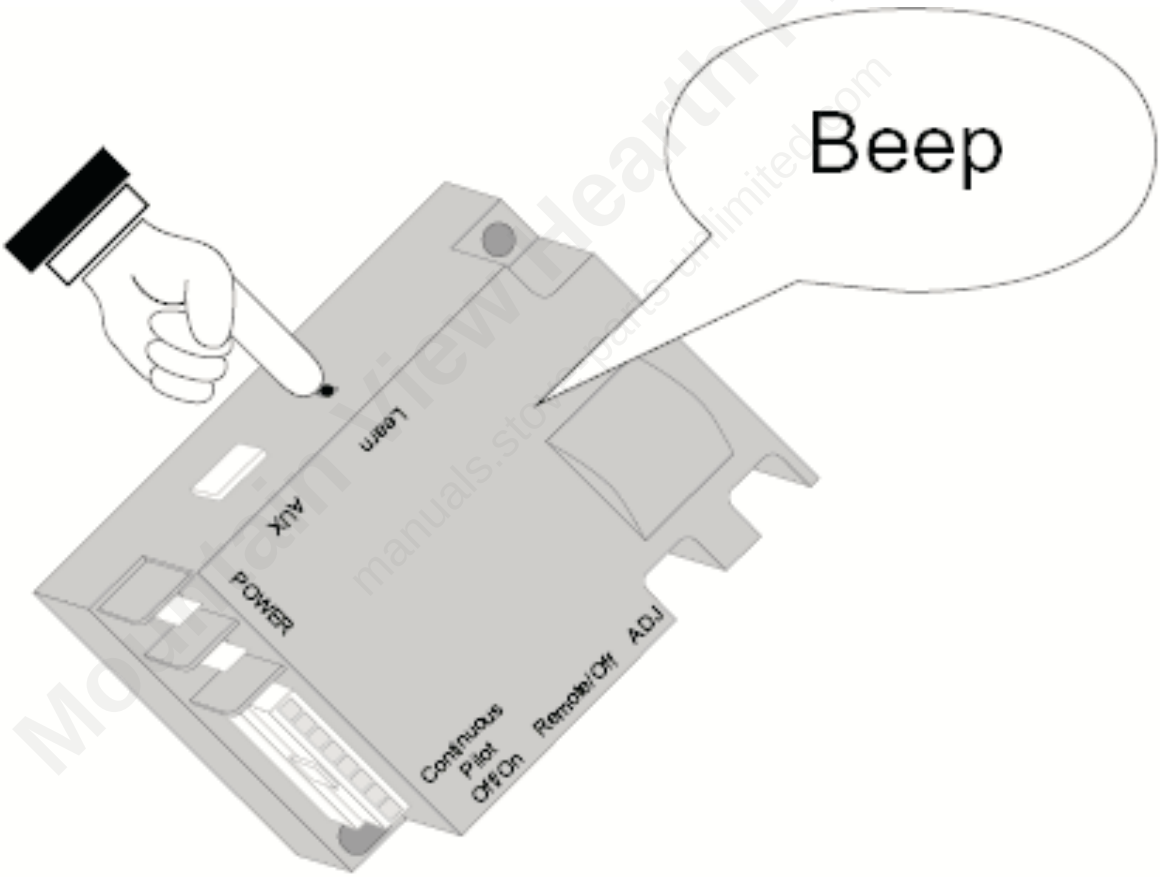


The Remote requires two (2) AAA batteries (included)



Revolution- Fireplace Xtrordinair

Press the "Learn" button on the receiver module until it beeps once (you may wish to use a pen or other device to depress this button).

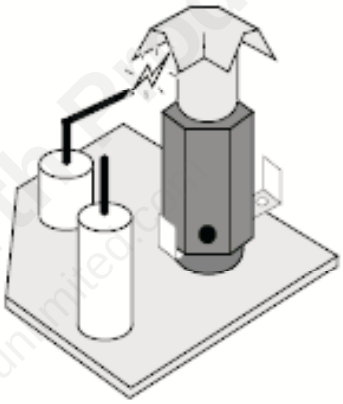


Revolution- Fireplace Xtrordinair

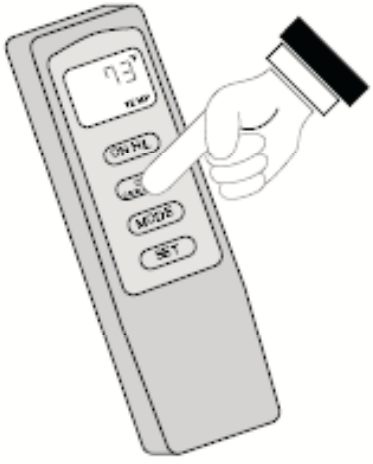
(a) Shut the gas off to the appliance.

(b) Press the "ON" button on the remote.

The spark electrode on the pilot assembly will start to spark*.



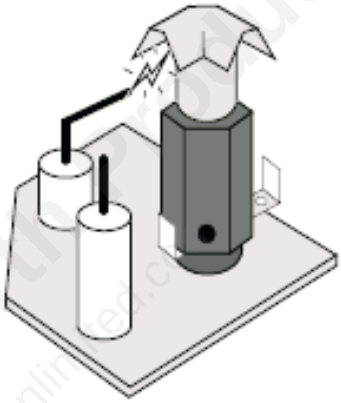
(c) Press the "OFF" button on the remote.



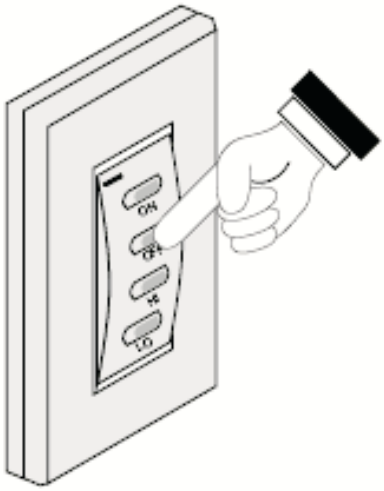
Revolution- Fireplace Xtrordinair

ⓓ Press the "ON" button on the wall switch.

The spark electrode on the pilot assembly will start to spark*.

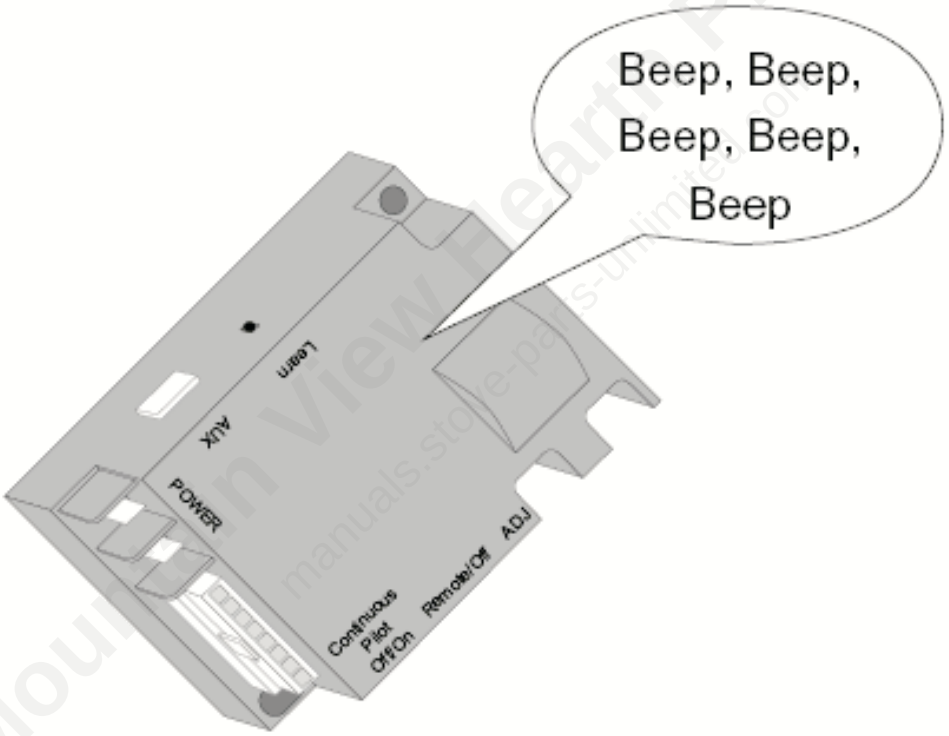


ⓔ Press the "OFF" button on the wall switch.



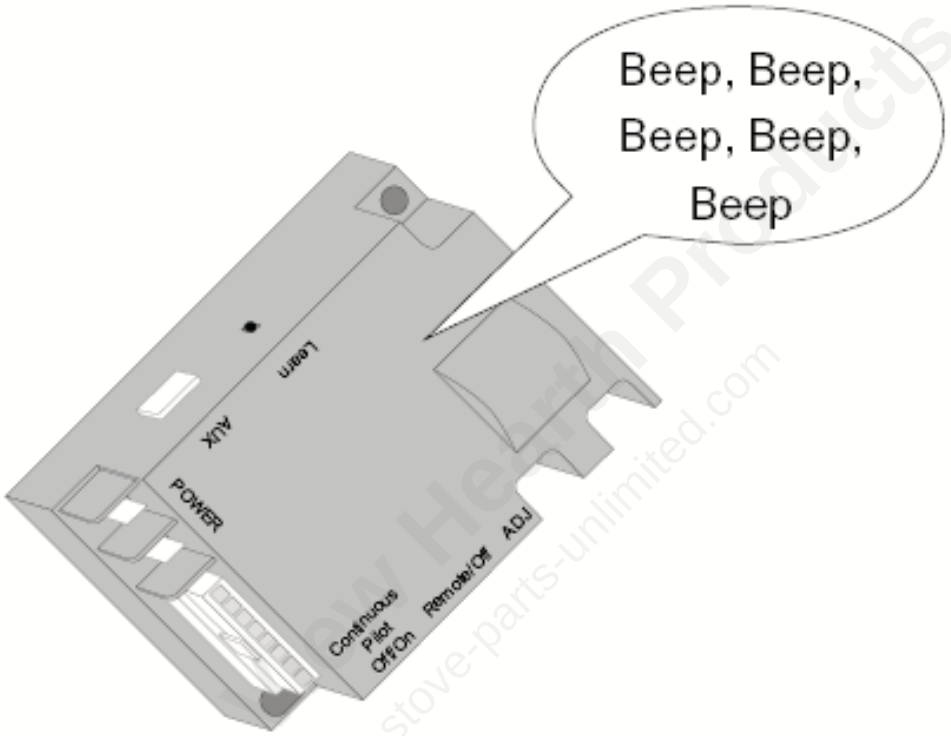
Revolution- Fireplace Xtrordinair

The receiver will acknowledge the signal by beeping 5 times.



Revolution- Fireplace Xtrordinair

The receiver will acknowledge the signal by beeping 5 times.



NOTE: Re-setting the Receiver Module

- If the receiver module fails to synchronize with the remote or wall switch after two attempts, you should re-set the receiver module. To do this, hold down the LEARN button on the receiver for approximately 10 seconds until the receiver beeps 3 times.

- This indicates the receiver has been re-set and can be synchronized.

SETTING OF AIR SHUTTERS & RESTRICTORS

TRAVIS INDUSTRIES
HOUSE OF FIRE

Restrictor Purpose

Restrictor Configuration

Air Shutter Configuration

Self-Balancing Flue

Setting Restrictors

Adjusting Air Shutters

TRAVIS INDUSTRIES
HOUSE OF FIRE

Restrictors

- In order to balance the air flow through the gas appliance, restrictors are commonly used throughout the industry.

- Other manufacturers may have you add restricting rings to the intake of the vent pipe in an effort to balance the air flow.

- While this does the job, you must climb to the top of the vent and add the rings immediately below the chimney cap.

- Travis Industries has built the restrictor system into the gas appliance. This makes for simple and easy restrictor adjustment.

- Restrictor setting is an important element of the appliance set-up and must be done by a PROFESSIONAL! Improper restrictor setting may cause poor flame appearance, frequent pilot outages or create dangerous delayed ignitions. Restrictor setting will be discussed in full detail later in this section.

Restrictors Purpose

- **Direct Vent Gas Applications** - Depend upon a very balanced relationship between incoming combustion air and exhausting of the burnt flue gases.

- Incoming combustion air must be in combustion process, but not so strong as to disrupt the pilot or burner flame.

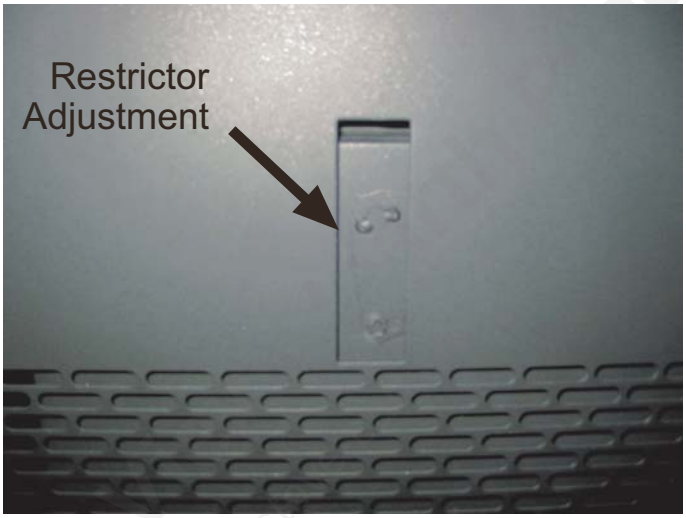
- The exhaust gases must exit the system at a set rate in order to draw in the air.

TRAVIS INDUSTRIES
HOUSE OF FIRE

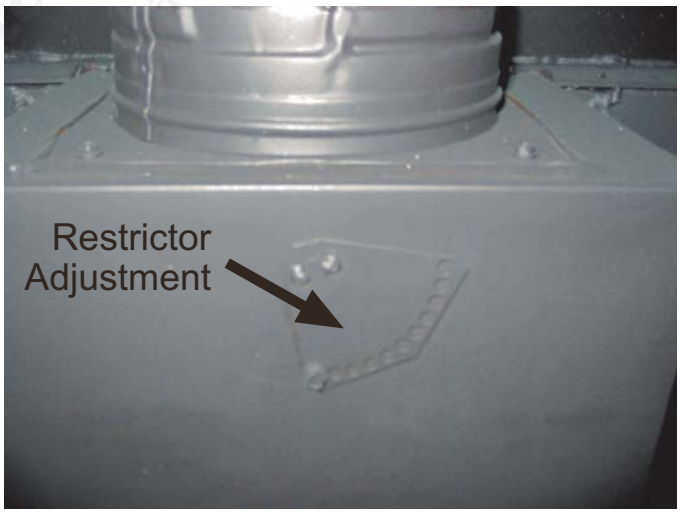
Restrictors Configuration

- Exhaust only restrictors were used on older Travis gas appliances.

LOPI SPIRIT



With Back Access Panel In Place



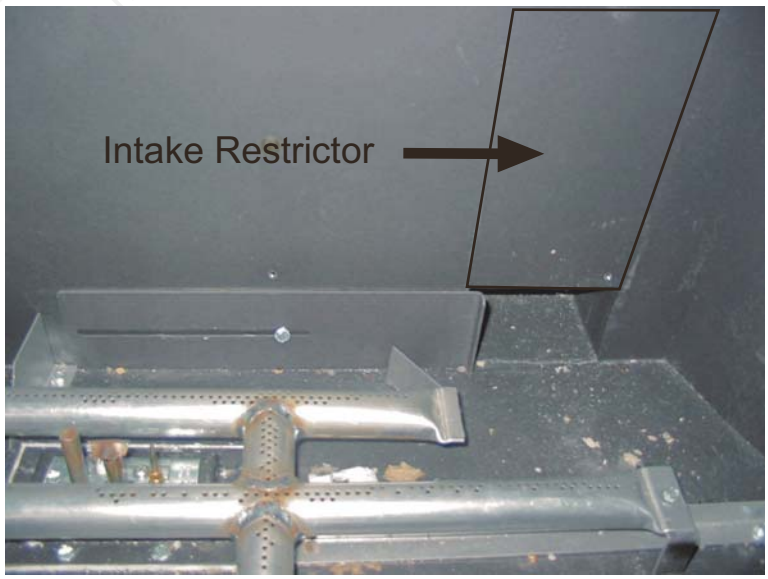
With Back Access Panel Removed

Restrictors Configuration

¥Many older units used only intake restrictors

FPX Model 44 DV -XXL

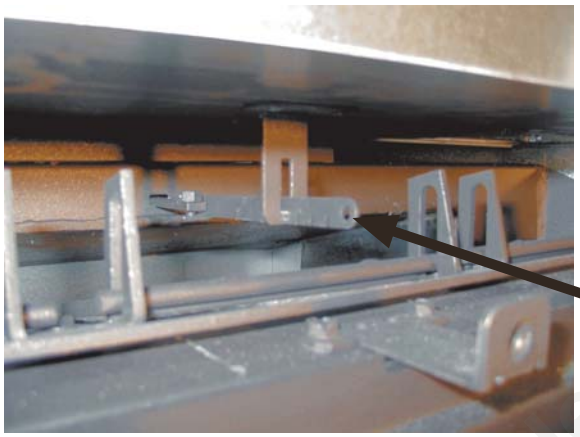
DVS/ DVL (Tube Burner)



Restrictors Configuration

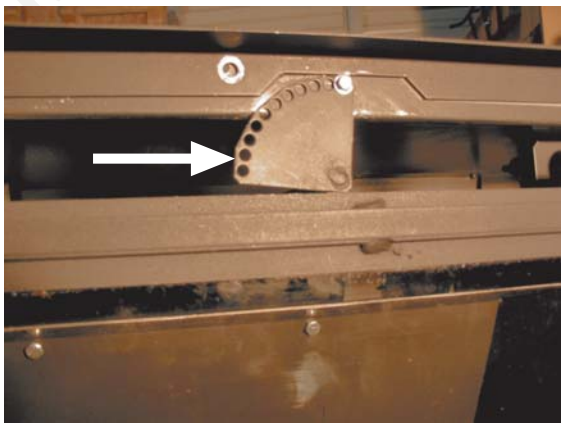
- Most of our newer units use a combination restrictor or syncronized intake and exhaust restrictor.

FPX Model 36 DV -XL

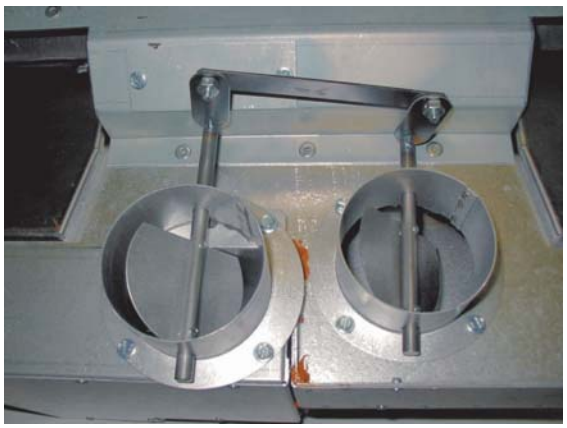


Freestanding Stoves

New DVS/ DVL Inserts



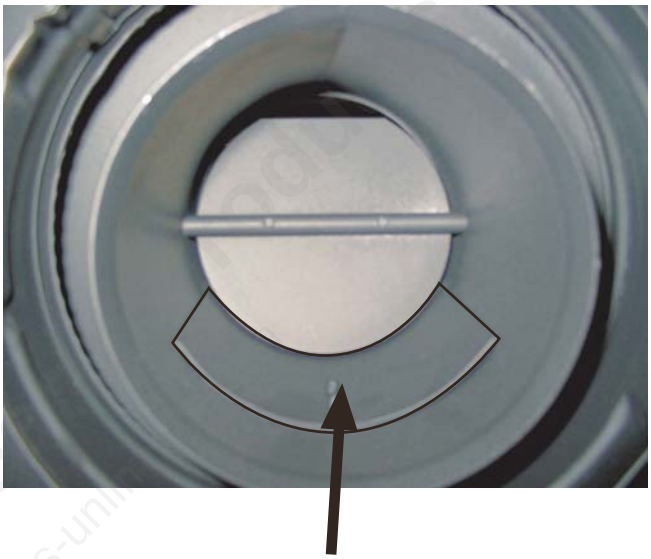
Restrictor Adjustment



Restrictor Plates

Restrictors Configuration

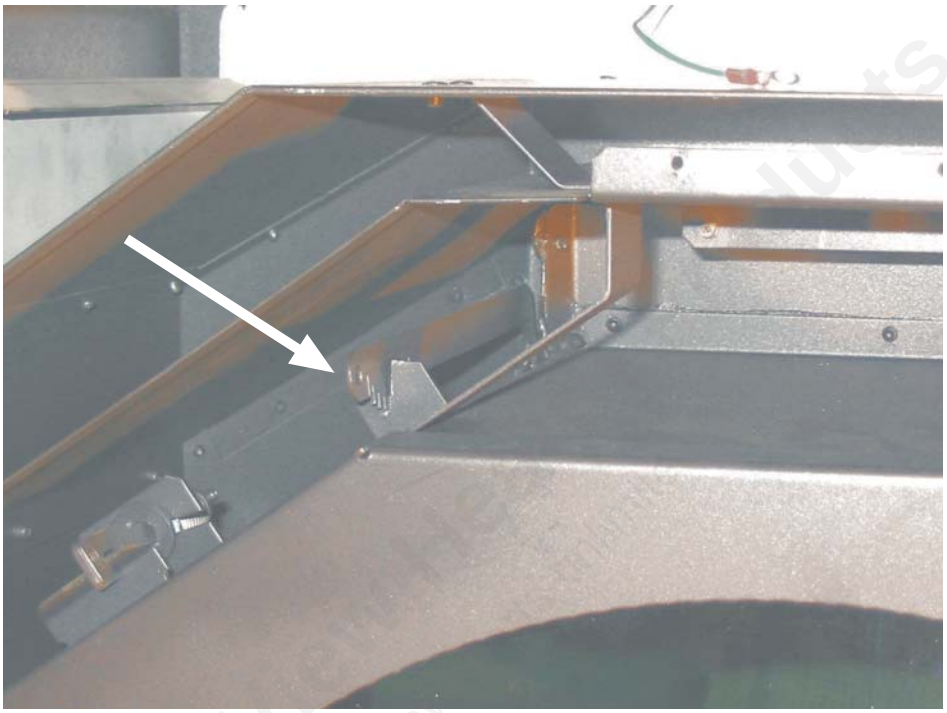
LOPI Sturbridge



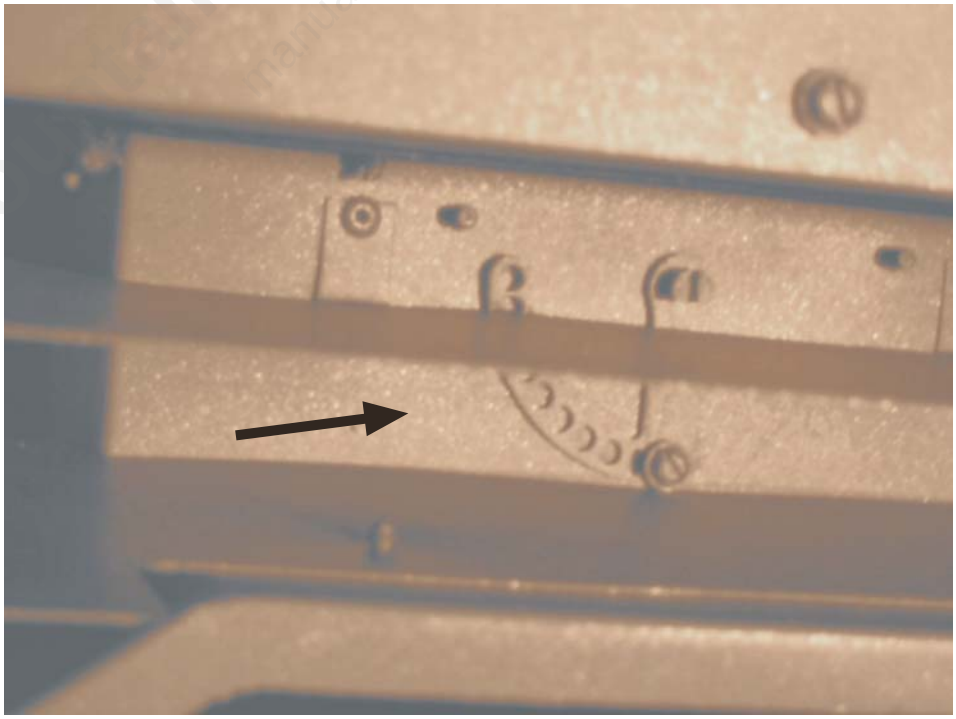
Flue Balance Plate -
Must Be Removed for Vertical
Installation

Restrictors Configuration

LOPI Sweet Dreams



21 DV FP

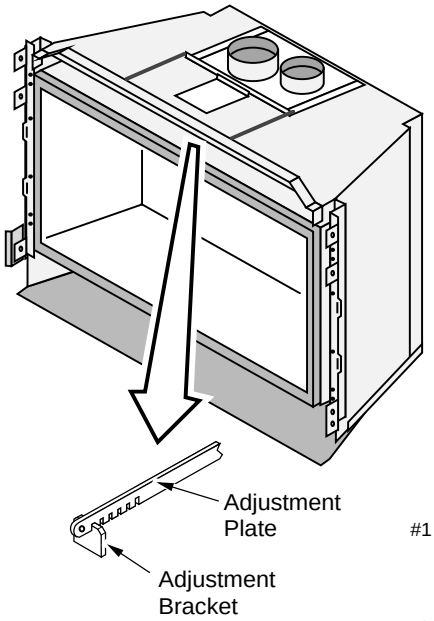


SETTING OF AIR SHUTTERS & RESTRICTORS

TRAVIS INDUSTRIES
HOUSE OF FIRE

Restrictors Configuration

New DVS Insert



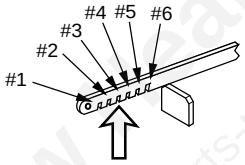
To Access the Restrictor:

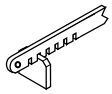
Remove the face.

WARNING: Use a glove to protect your hand from burns.

To Adjust the Restrictor:

1. Determine a restrictor position. Start low (move the restrictor a maximum two positions at a time) and thoroughly test the heater before adjusting further.
2. Lift up the adjustment plate and move it so the correct notch falls into the slot on the adjustment bracket.



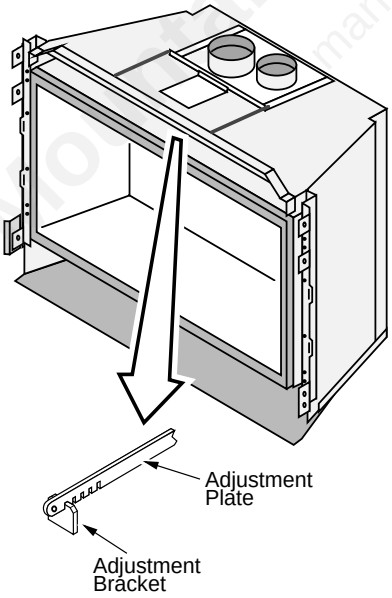


This restrictor is in position 1 (factory setting).

To adjust, lift up on the adjustment plate and push it back (use pliers if necessary).

This restrictor is in position 2.

New DVL Insert



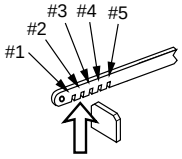
To Access the Restrictor:

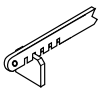
Remove the face.

WARNING: Use a glove to protect your hand from burns.

To Adjust the Restrictor:

1. Determine a restrictor position. Start low (move the restrictor a maximum two positions at a time) and thoroughly test the heater before adjusting further.
2. Lift up the adjustment plate and move it so the correct notch falls into the slot on the adjustment bracket.





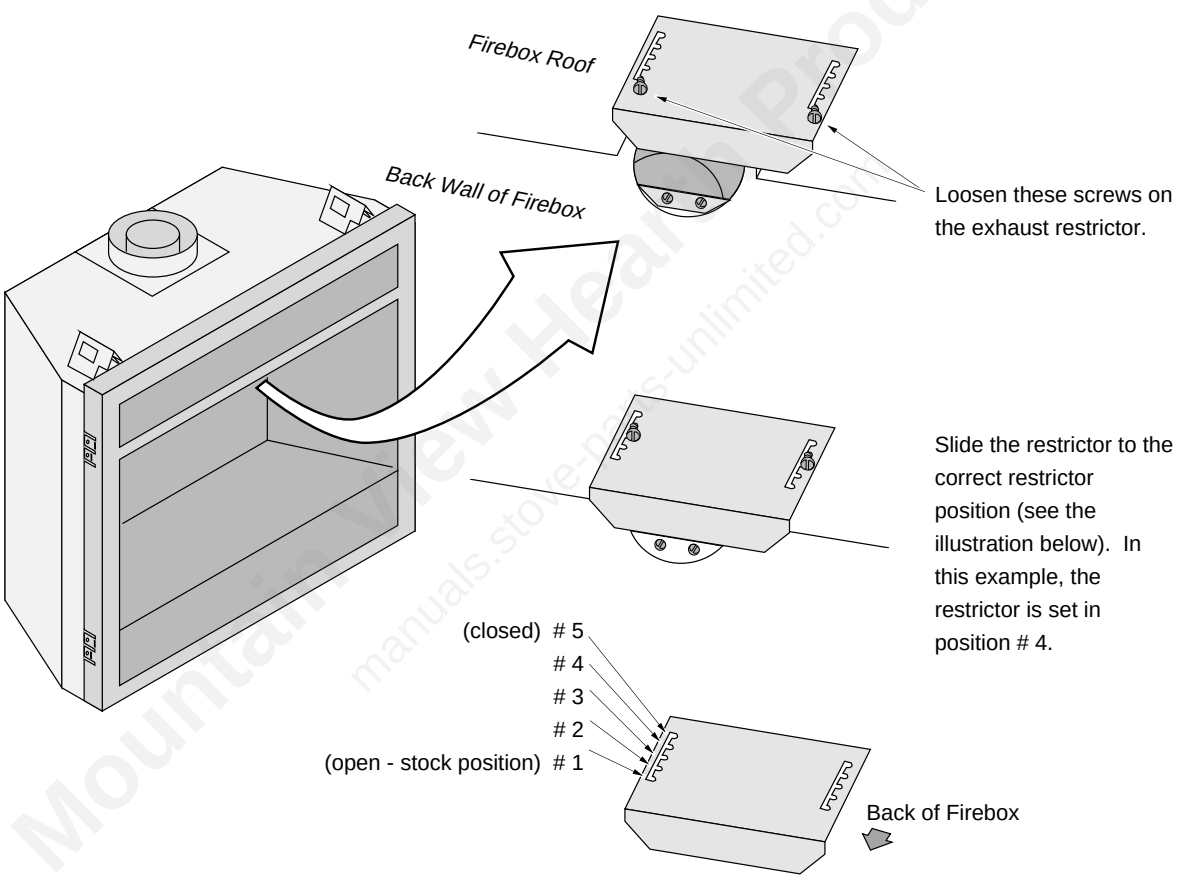
This restrictor is in position 1 (factory setting).

To adjust, lift up on the adjustment plate and push it back (use pliers if necessary).

This restrictor is in position 2.

Restrictors Configuration

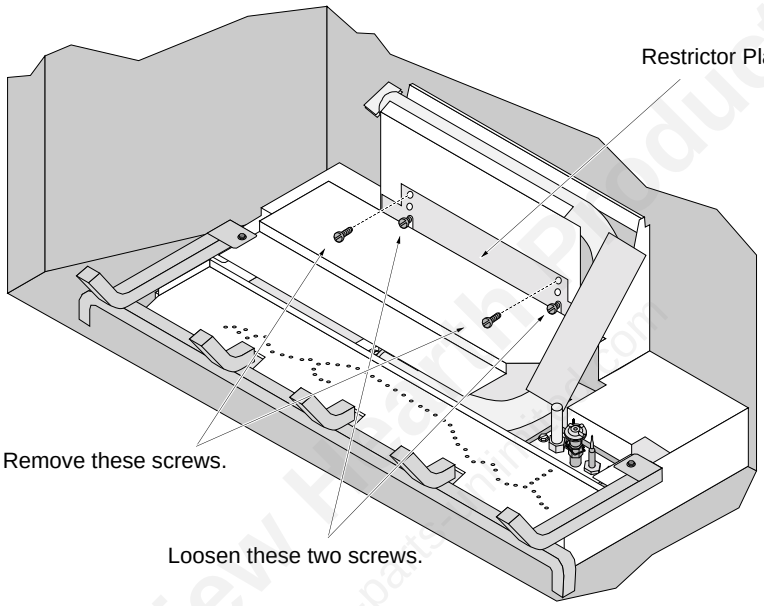
864TRV & HH

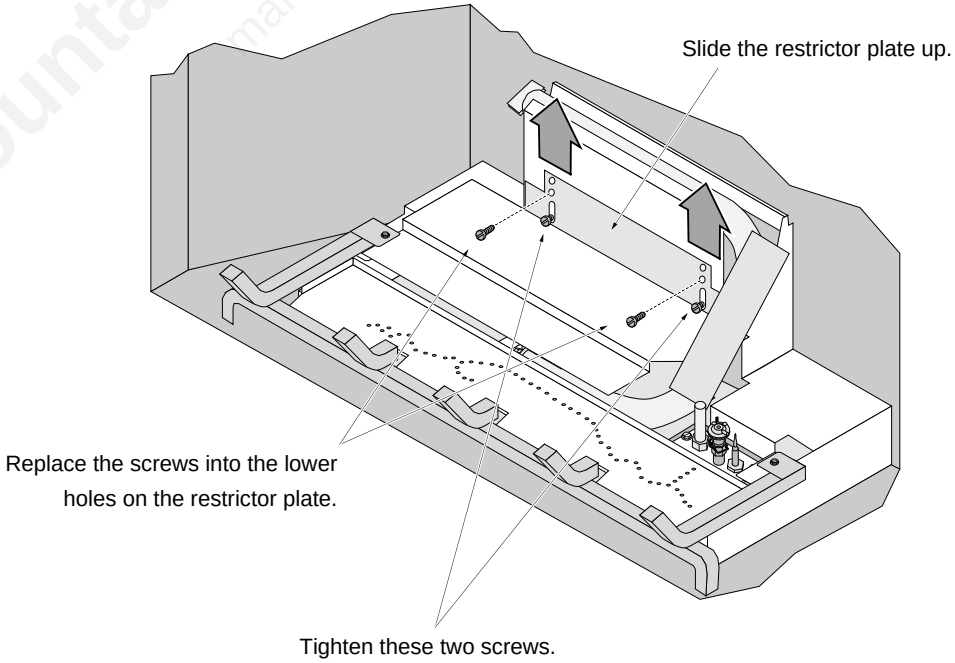


TRAVIS INDUSTRIES
HOUSE OF FIRE

Restrictors Configuration

864TRV

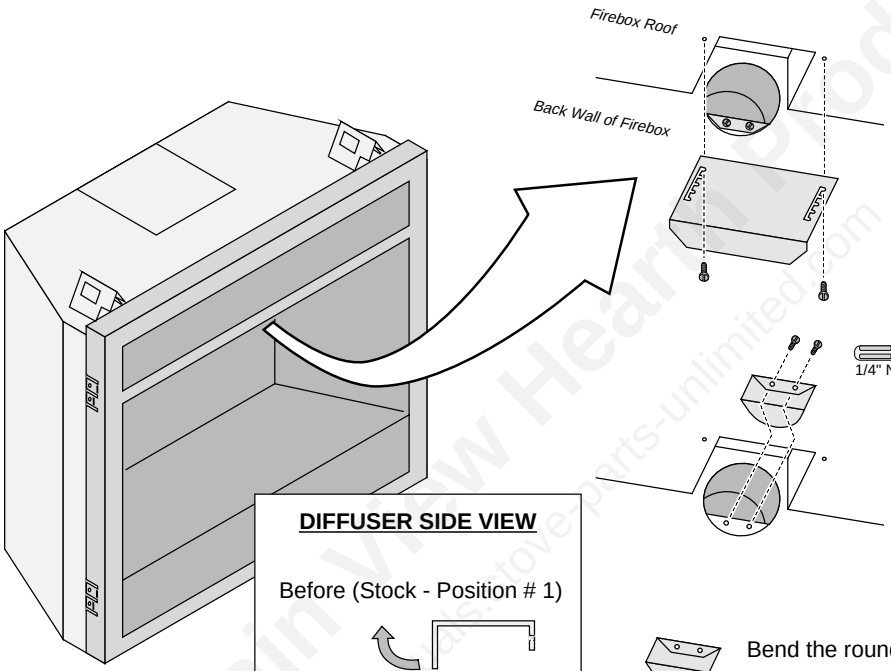




TRAVIS INDUSTRIES
HOUSE OF FIRE

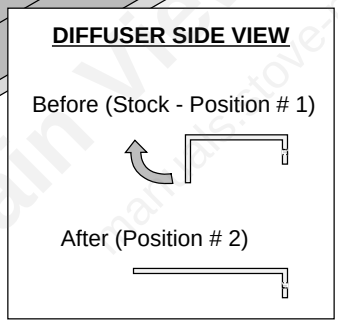
Restrictors Configuration

864TRV & HH

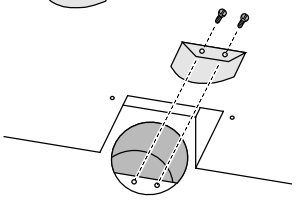


Remove the exhaust restrictor.

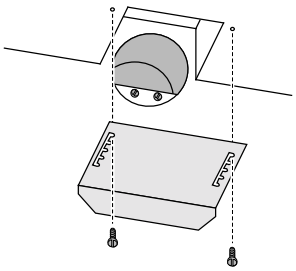
Remove the diffuser.



Bend the round portion of the diffuser so it is flat (position # 2).



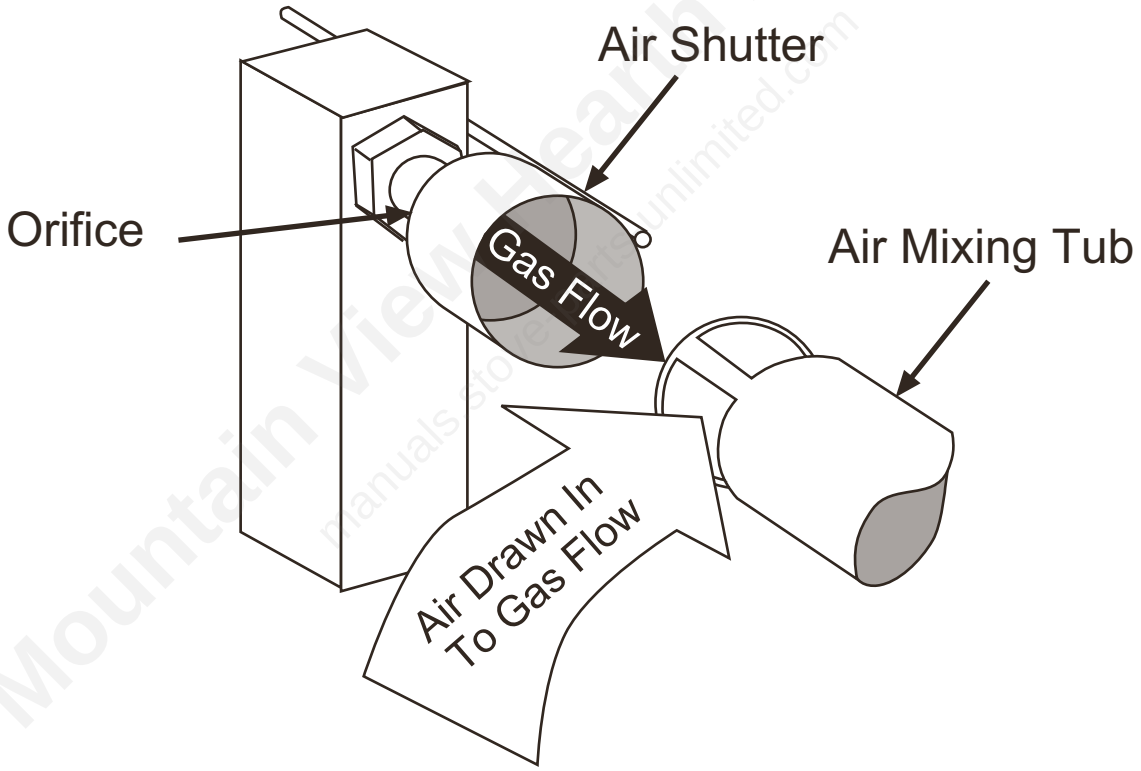
Secure the flattened diffuser plate with the screws removed earlier.



Replace the exhaust restrictor (see “Exhaust Restrictor Adjustment” for restrictor settings).

Air Shutter Purpose

- Once the combustion air has entered the appliance the air shutter controls the amount of the primary air that will mix with the fuel gas.



Tube Burner Air Shutter Shown

Air Shutters

Blue Flame vs. Yellow Flame

- Our gas appliances achieve a realistic looking fire by using a yellow flame
- This is achieved by depriving primary air (point where air and gas are mixed) and using secondary air (fire area) to complete the combustion process
- The primary air is regulated by the air shutter:
  - More open - blue flame
  - More closed - yellow flame

  Note: Closing the air shutter beyond the designated minimum will create incomplete combustion and possibly dangerous carbon monoxide
- While a yellow flame appliance is not as clean-burning as a blue flame appliance, it is within ANSI Standards (American National Standards Institute)
- Many gas Companies or HVAC people are not familiar with today's yellow flame technology. Therefore, they adjust the appliance to burn blue as they have been trained to do on traditional appliances.

TRAVIS INDUSTRIES
HOUSE OF FIRE

Air Shutters

AIR SHUTTER

- OPEN
  - Short Blue Flame
  - Hottest Flame
  - Produces Heavy Ember Glow On Logs & Burner

AIR SHUTTER

- CLOSED
  - Taller, More Yellow Flame
  - Cooler Flame
  - Lower Ember Glow On Logs & Burner

Air Shutter Configurations

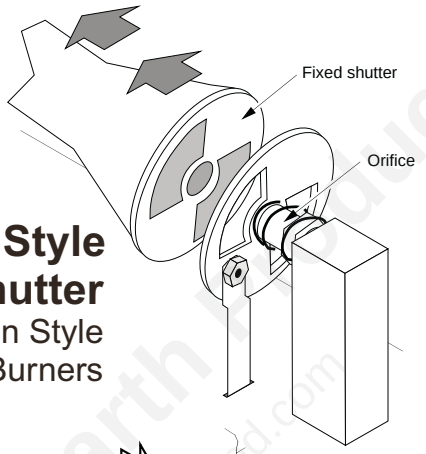
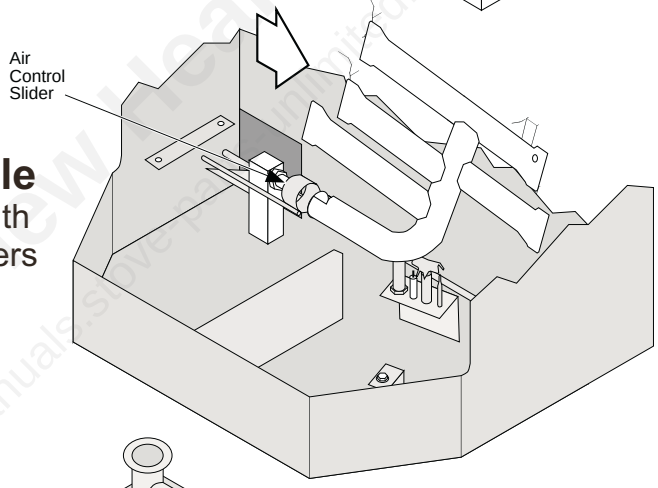
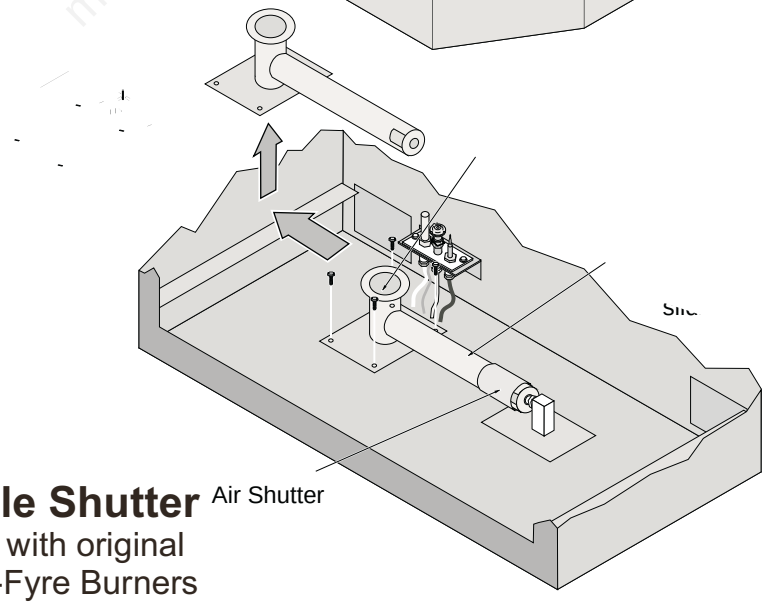


Plate Style Shutter
Used with Pan Style Burners



Tube Style
Used with
Tube Burners

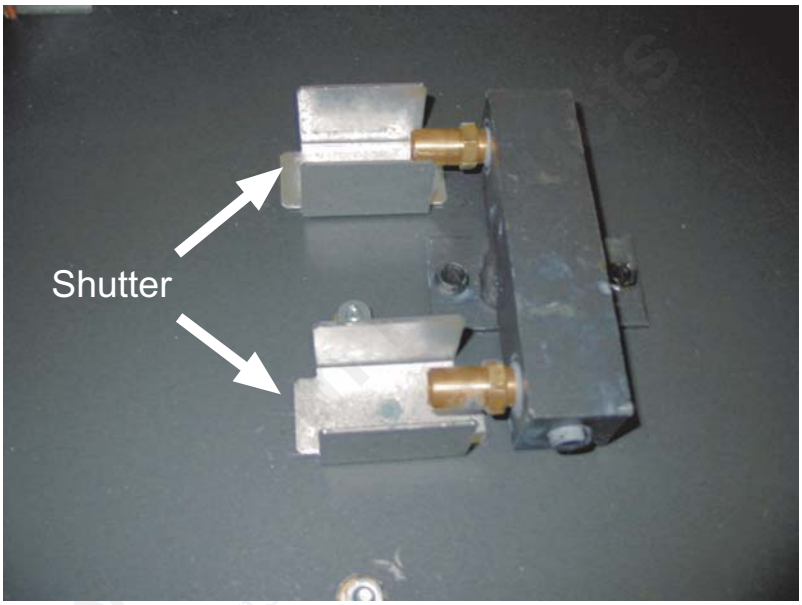


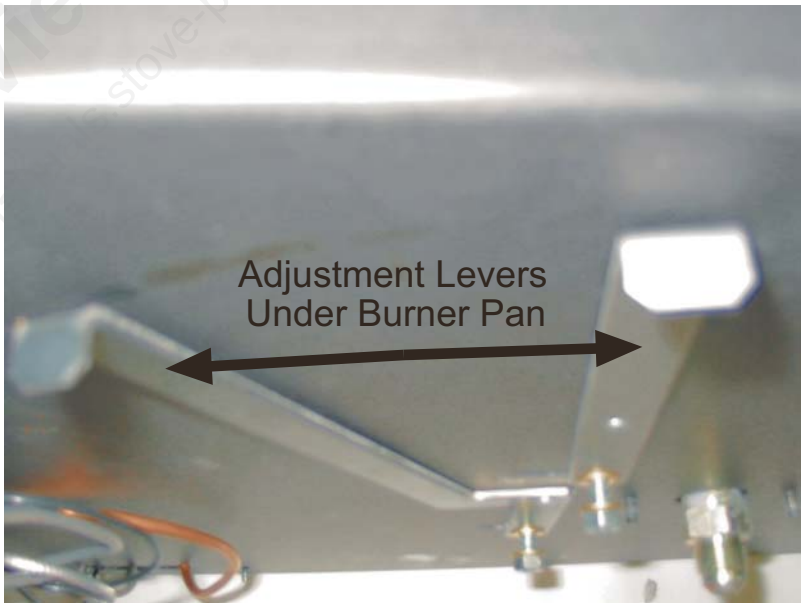
Tube Style Shutter
Used with original
Ember-Fyre Burners

Air Shutter Configurations

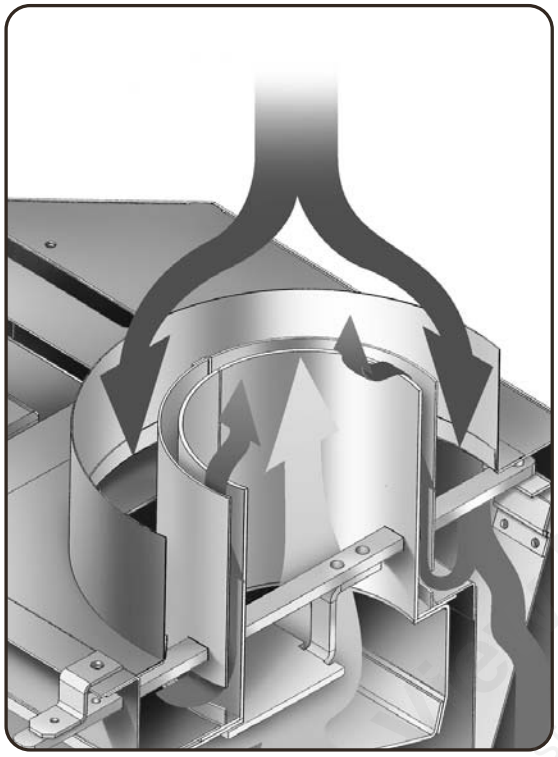
U-Style Shutter

Used with newest
Ember-Fyre Burners





Self-Balancing Flue System

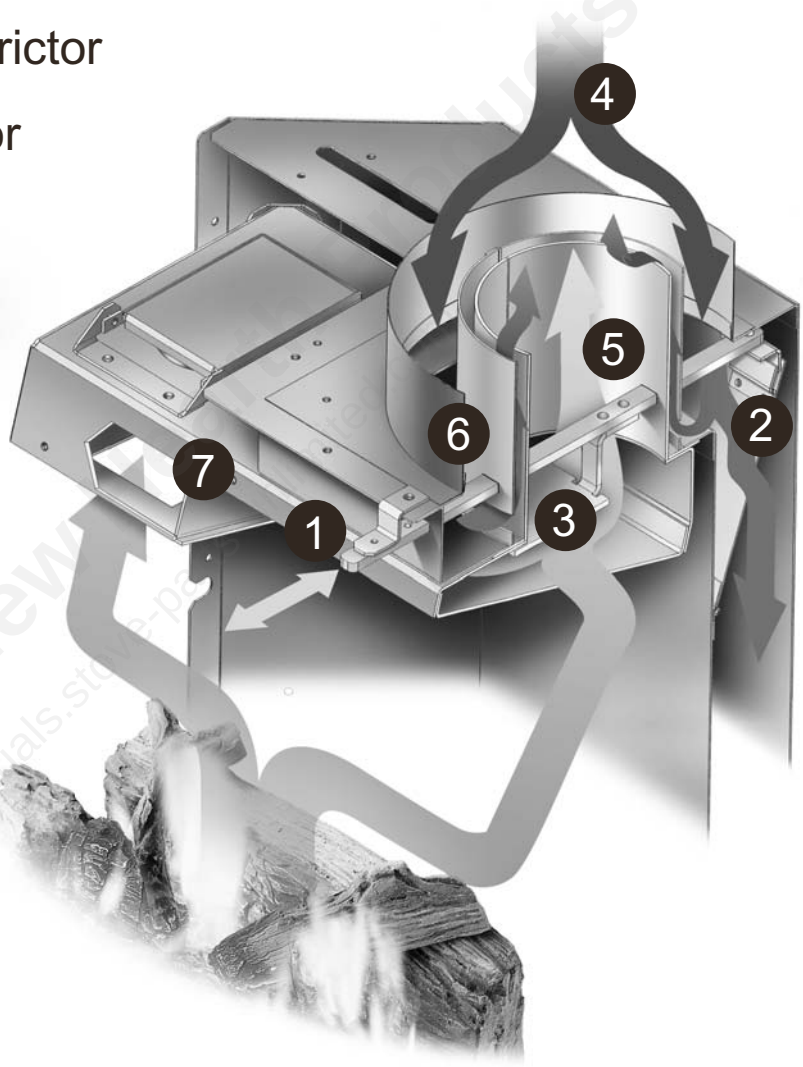


- Occasionally atmospheric conditions at the vent termination will result in the flue gas being drawn out of the appliance too quickly. The increased flue gas exiting will cause the combustion air to be drawn in at faster rate, creating flame disruption.
- The self-balancing flue system works much like a barometric damper and prevents over-drafting.
- When overdrafting occurs, fast rising flue gases pull combustion air through the slots at the base of the collar and up into the vent. This decreases the incoming speed and volume of the combustion air keeping the system balanced.

TRAVIS INDUSTRIES
HOUSE OF FIRE

Self-Balancing Flue System

1. Synchronized Restrictor
2. Air Intake Restrictor
3. Exhaust Restrictor
4. Combustion Air
5. Exhaust Gases
6. Self-Balancing Flue System
7. Heat Exchanger



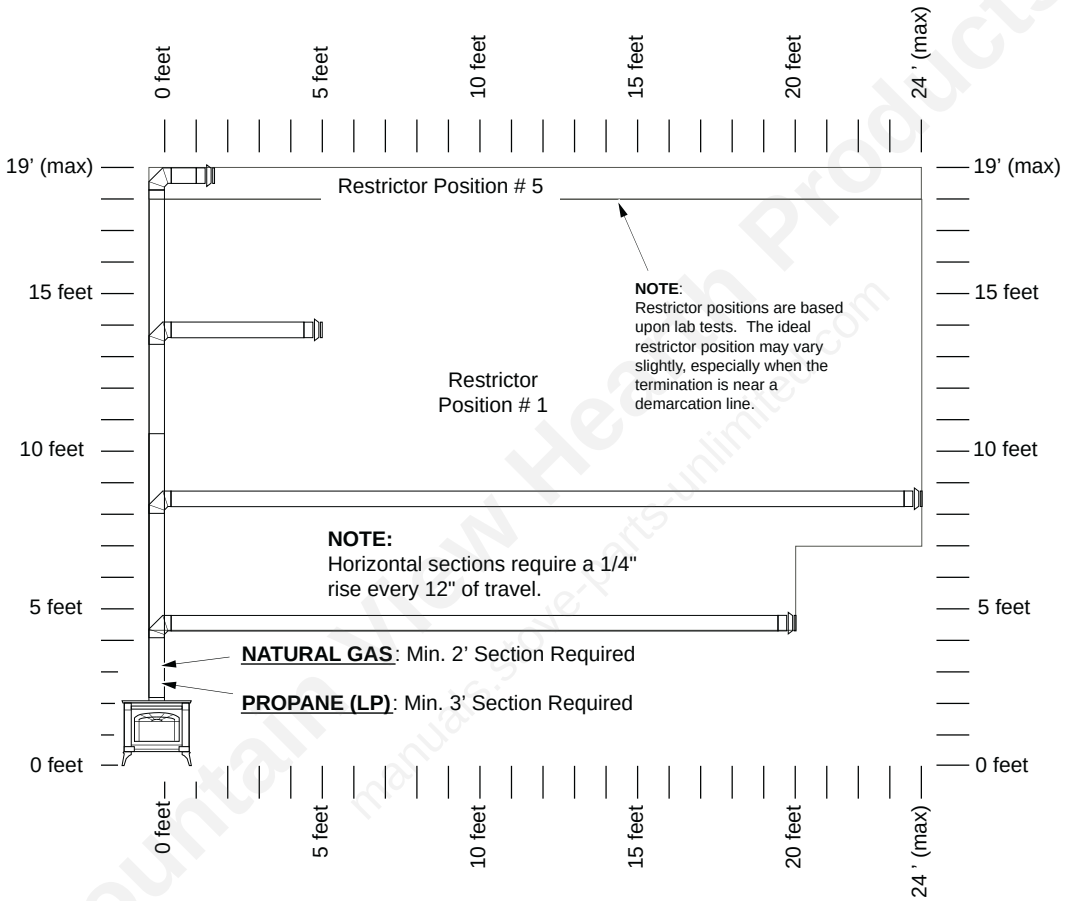
TRAVIS INDUSTRIES
HOUSE OF FIRE

Restrictor Setting

- Setting of the gas appliance restrictor is a very critical part of the appliance set-up.
- All Travis Industries gas appliances are shipped in the wide open position.
- Failure to set the restrictor may result in poor flame appearance or frequent pilot/burner outages.
- Only professionals should make restrictor adjustments.
- Improper setting may lead to sooting, carbon build-up and/or dangerous delayed ignition.

Restrictor Adjustment

1. Set restrictor in accordance with installation recommendations



2. Adjust Air Shutter to Wide Open Position
3. Burn Appliance for 15-20 Minutes (Bring Everything Up to Heat)
4. After 15-20 Minutes of Burn Time Move Air Restrictor Until You Archive the Best Looking Flame
5. Secure Air Restrictor

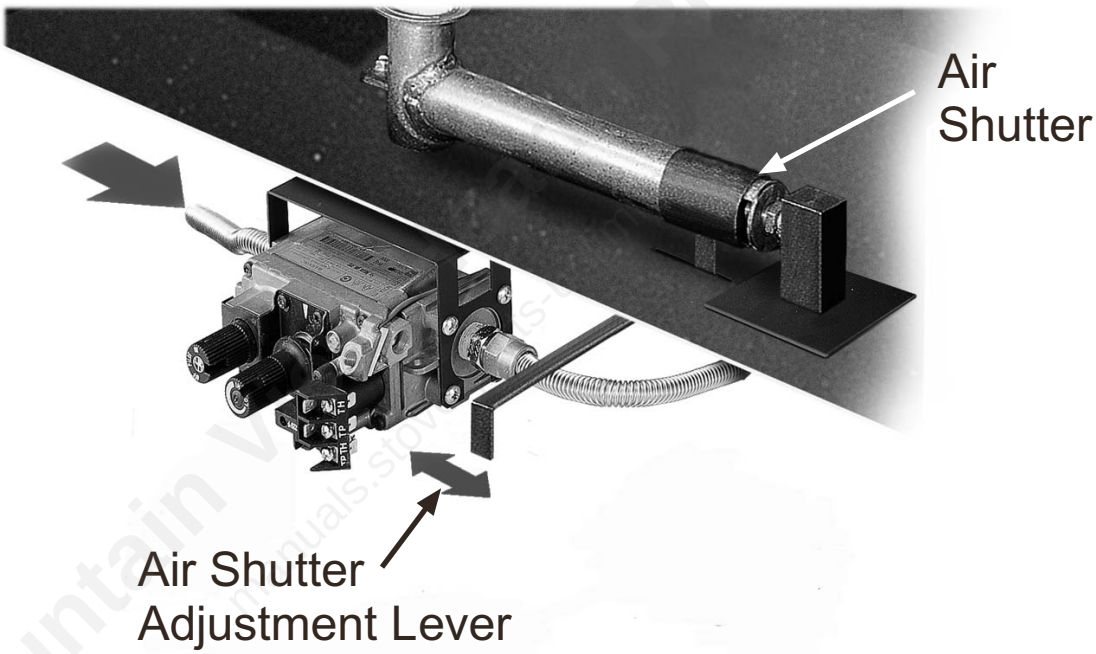
TRAVIS INDUSTRIES
HOUSE OF FIRE

Air Restrictor Adjustment

1. Adjust to Desired Ember-Fyre Look

2. The More Closed the More Ember-Fyre Look

3. The More Open the Less Ember-Fyre Look



Pre-Ember-Fyre Technology - Shutters should be adjusted by a professional - NOT the consumer!

Ember-Fyre Technology - Allows for the consumer to adjust flame to match their mood at any given time.

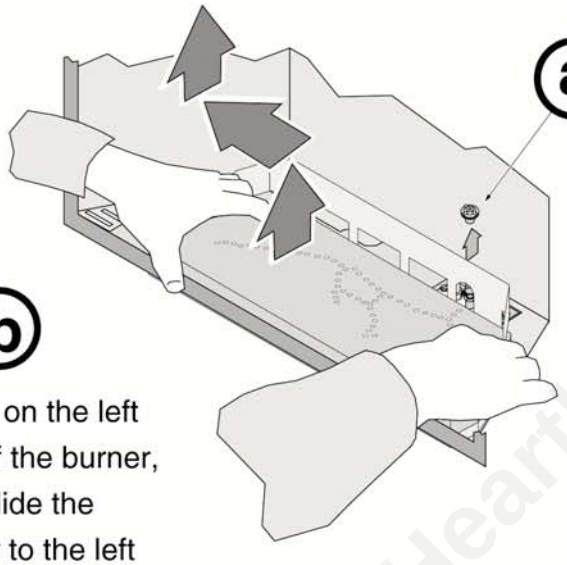
FUEL CONVERSION - 21 TRV

TRAVIS INDUSTRIES
HOUSE OF FIRE

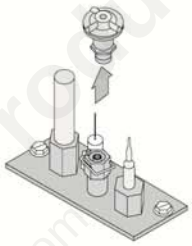
Install the conversion kit prior to installing the gas line to ensure proper gas use.

1 Remove the glass (see page 39). Remove the logs and coals (if installed - page 43)

2 Remove the burner (see illustration below).



(a) Lift the pilot hood off the pilot assembly (you may need to pull hard to remove).

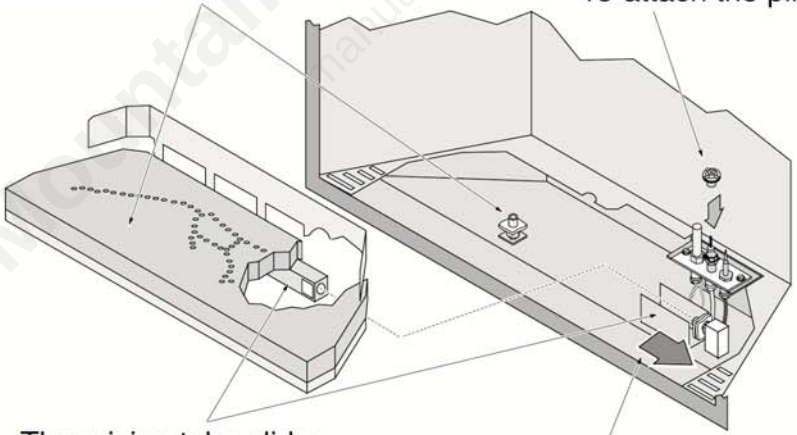


(b) Lift up on the left side of the burner, then slide the burner to the left and up to remove.

Burner Replacement:

Make sure the orifice on the firebox floor inserts into the fitting on the bottom of the burner.

After replacing the burner re-attach the pilot hood.



The mixing tube slides onto the orifice.

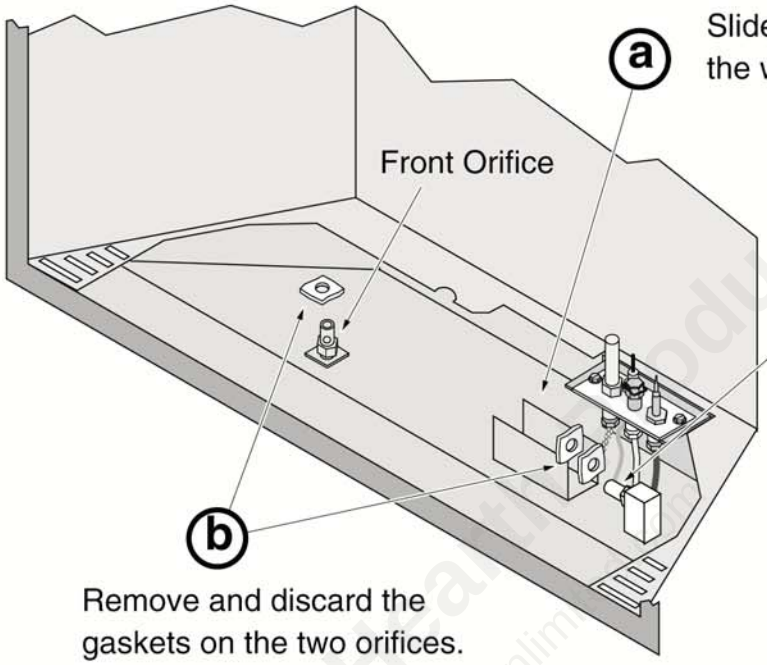
Before replacing the burner, slide the air control all the way to the right.

Make sure the burner is fully seated and pilot hood lines up with the burner holes at the rear edge of theburner.

FUEL CONVERSION - 21 TRV

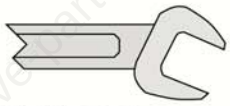
TRAVIS INDUSTRIES
HOUSE OF FIRE

3 Follow the directions below to replace the orifice.



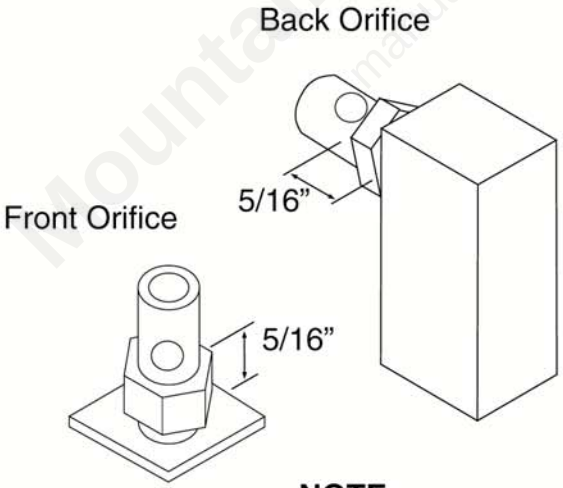
c

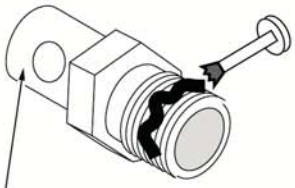
Use a 1/2" open end wrench to unscrew both burner orifices.



d

Apply thread sealant to the new orifice and install.





Look here for the orifice identification.

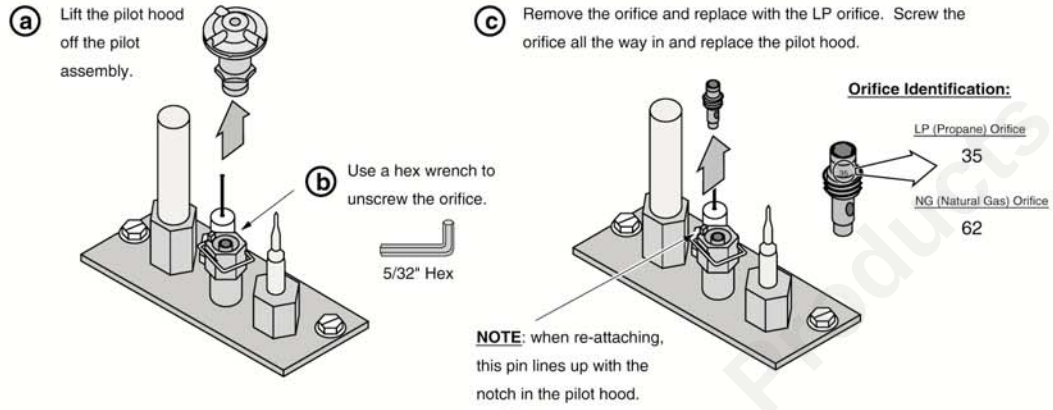
	LP	NG
Front	#66	#55
Rear	#65	#55

NOTE:
Screw the LP orifice in so the orifice shoulder protrudes 5/16" (indicating full insertion).

FUEL CONVERSION - 21 TRV

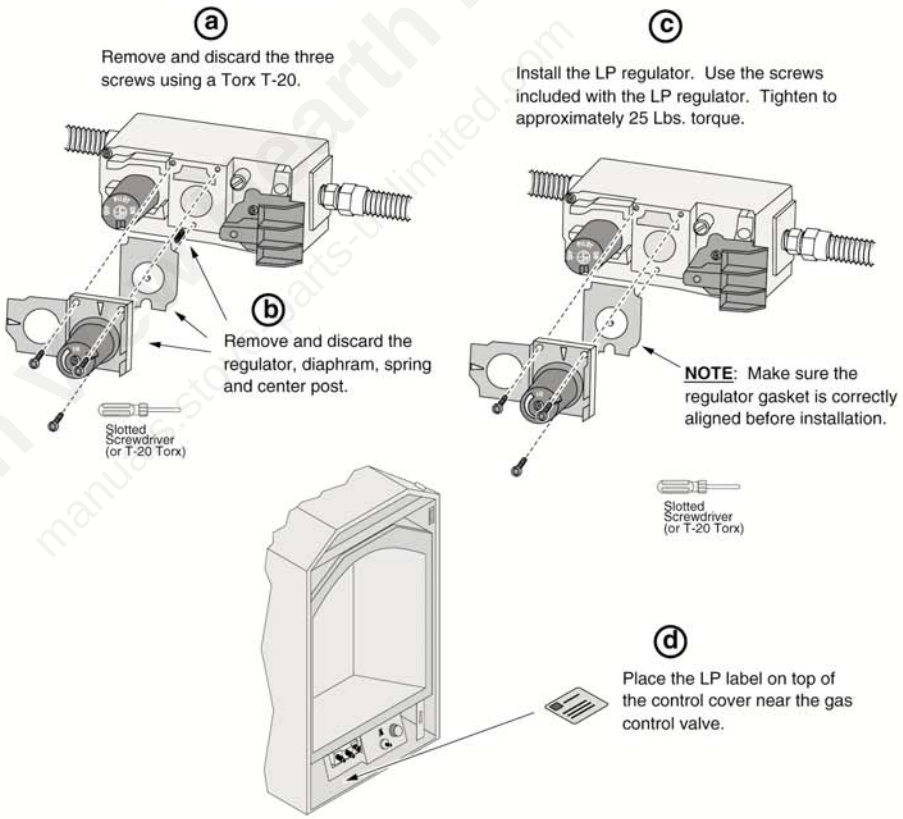
TRAVIS INDUSTRIES
HOUSE OF FIRE

Remove the pilot orifice following the instructions below. Replace with the propane pilot orifice



Replace the firebox components. Install the logs and embers. Replace the glass.

Remove the regulator from the front of the gas control valve. Replace with the propane regulator, using the new gasket and screws included with the regulator. **NOTE: Leak test this area after the heater is installed, gas is connected, and the main burner is lit.**



FUEL CONVERSION - 21 TRV

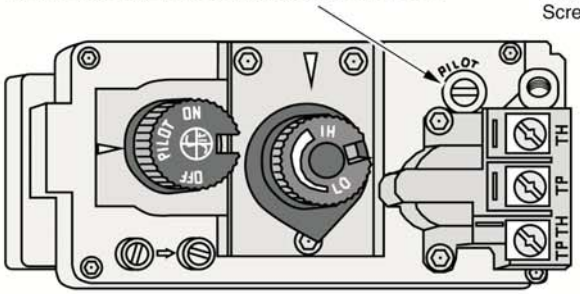
TRAVIS INDUSTRIES
HOUSE OF FIRE

7 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leak-test all gas connections and the gas control valve. Check the pilot. Adjust if necessary.

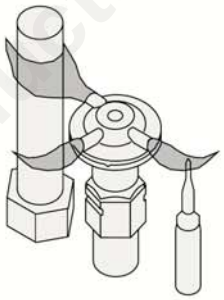
WARNING: When lighting or re-lighting the pilot, the glass must be removed (see page **39).**

To adjust the pilot flame, turn this screw (NOTE: if totally unscrewed gas will come out of this port). Clockwise lowers the flame while counter-clockwise raises it.

Standard Screwdriver



The pilot flame must contact the thermocouple and thermopile (see the illustration below). Adjust the pilot up or down as necessary.



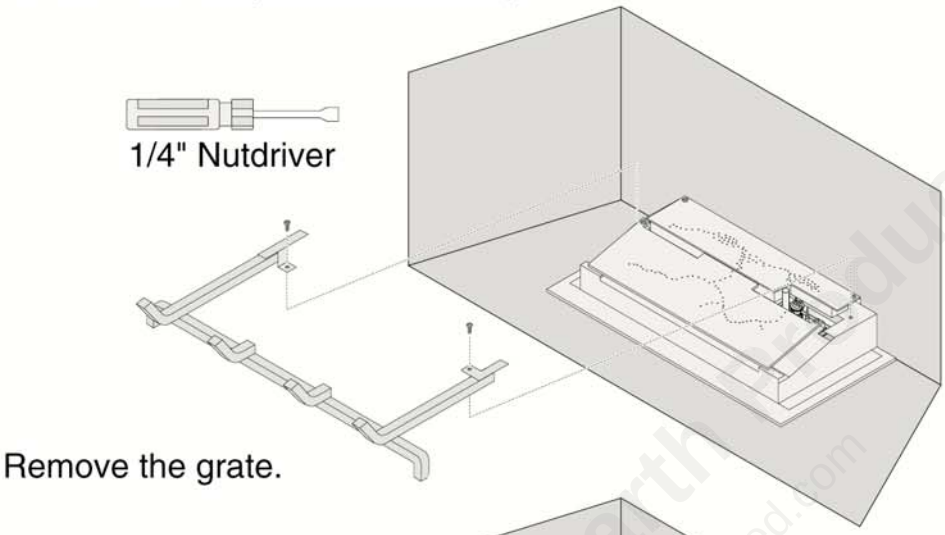
FUEL CONVERSION - 564 SS

TRAVIS INDUSTRIES
HOUSE OF FIRE

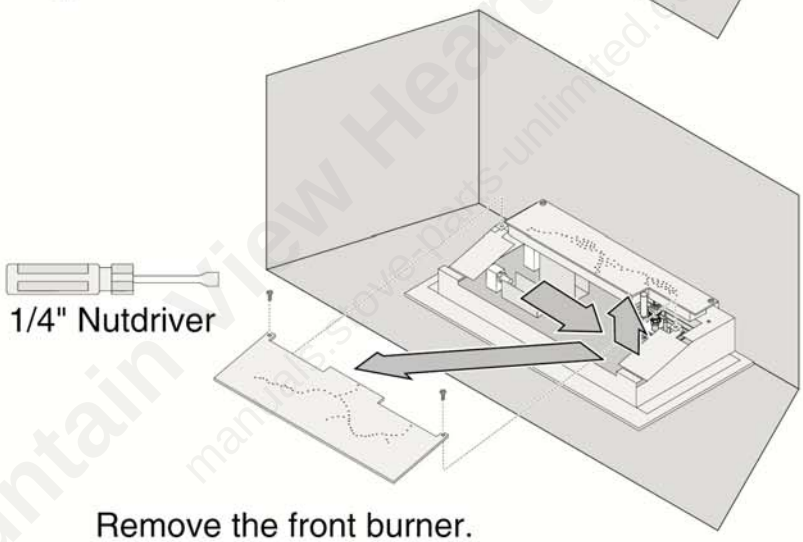
Install the conversion kit prior to installing the gas line to ensure proper gas use.

1 Remove the glass (see page 44). Remove the logs and coals (if installed - page 48)

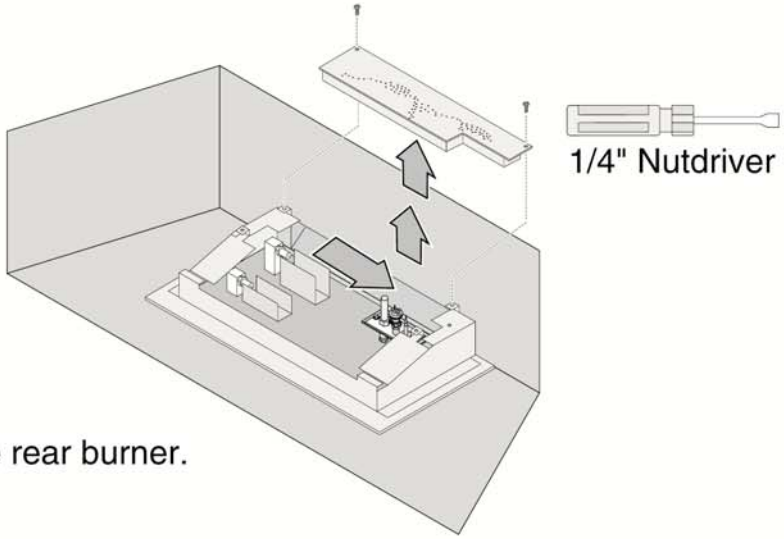
2 Remove the burner (see illustration below).



Remove the grate.



Remove the front burner.



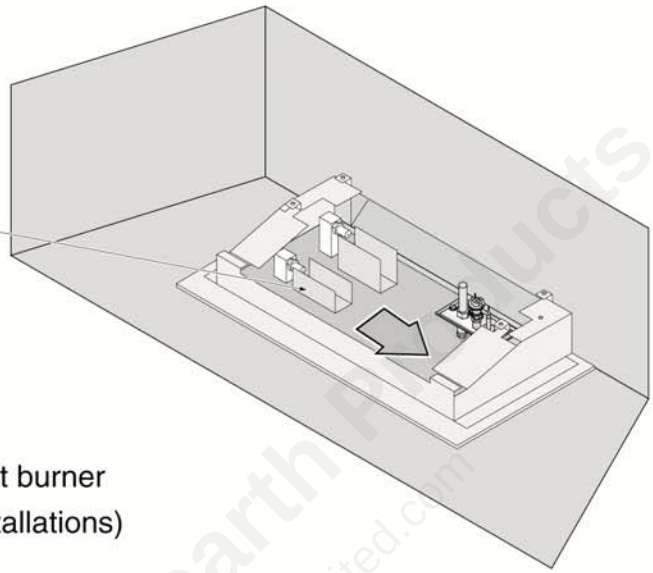
Remove the rear burner.

FUEL CONVERSION - 564 SS

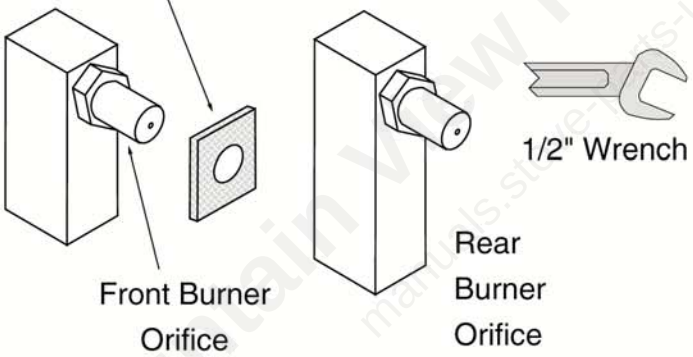
TRAVIS INDUSTRIES
HOUSE OF FIRE

3 Follow the directions below to replace the orifice.

ⓐ Slide the air shutters all the way to the right.

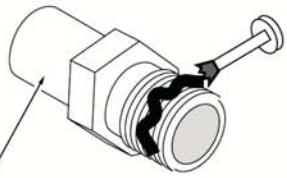


ⓑ Remove and discard the front burner gasket (used only for NG installations)



ⓒ Use a 1/2" open end wrench to unscrew the two orifices.

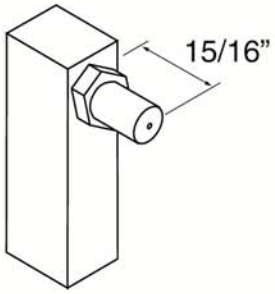
ⓓ Apply thread sealant to the LP orifices prior to installation. Use the chart below to identify the correct orifices.



Look here for the orifice identification

	NG	LP
Front	#56	#67
Rear	#50	1.1

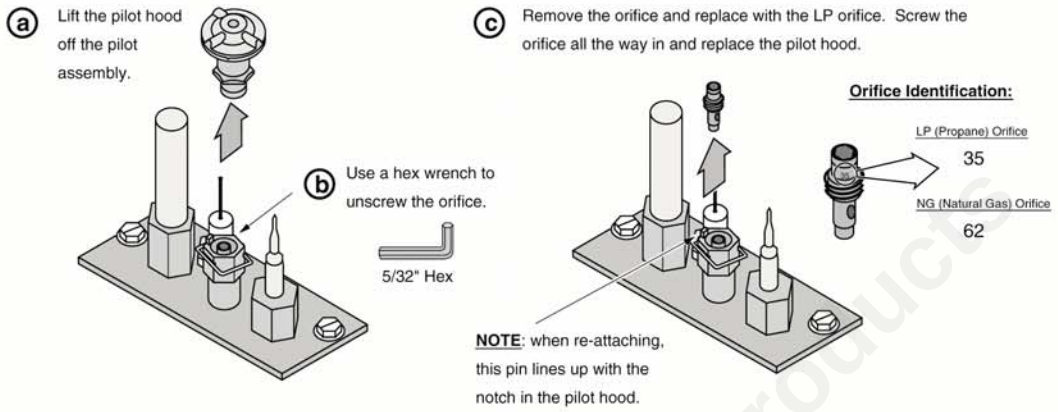
ⓔ Screw each LP orifice in so the orifice protrudes 15/16" (indicating full insertion).



FUEL CONVERSION - 564 SS

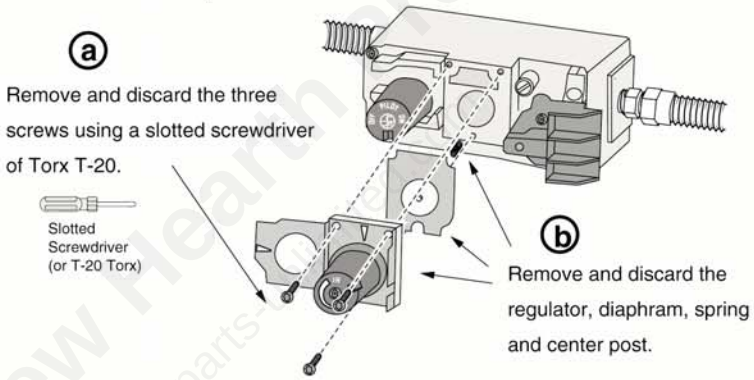
TRAVIS INDUSTRIES
HOUSE OF FIRE

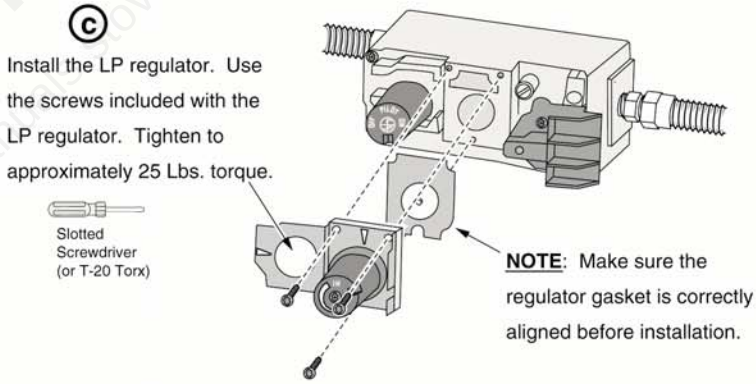
4 Remove the pilot orifice following the instructions below. Replace with the propane pilot orifice

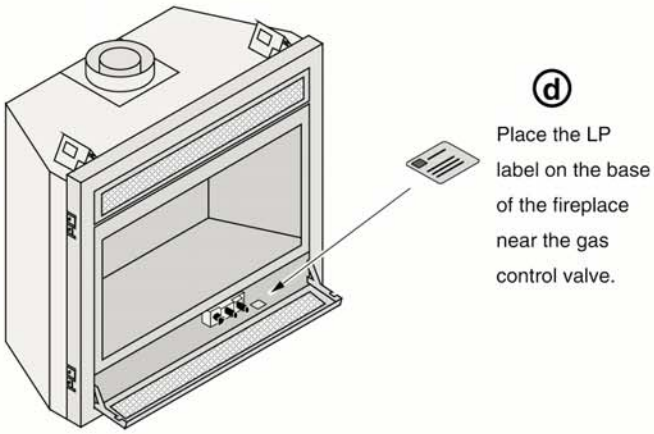


5 **Replace the firebox components.** Install the logs and embers. Replace the glass.

6 Remove the regulator from the front of the gas control valve. Replace with the propane regulator, using the new gasket and screws included with the regulator. **NOTE: Leak test this area after the heater is installed, gas is connected, and the main burner is lit.**





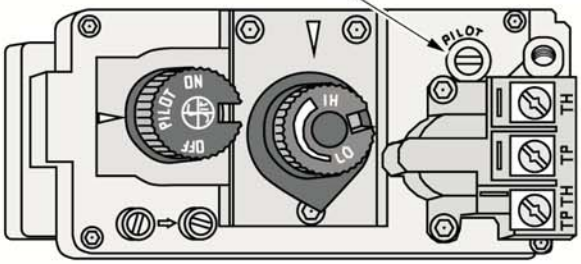


7 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leak-test all gas connections and the gas control valve. Check the pilot. Adjust if necessary.

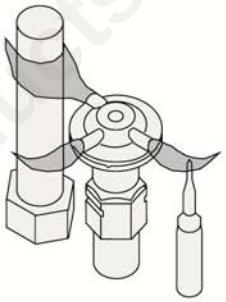
WARNING: When lighting or re-lighting the pilot, the glass must be removed (see page **44).**

To adjust the pilot flame, turn this screw (NOTE: if totally unscrewed gas will come out of this port). Clockwise lowers the flame while counter-clockwise raises it.

Standard Screwdriver



The pilot flame must contact the thermocouple and thermopile (see the illustration below). Adjust the pilot up or down as necessary.



FUEL CONVERSION - 1080 CF

TRAVIS INDUSTRIES
HOUSE OF FIRE

Install the conversion kit prior to installing the gas line to ensure proper gas use.

1 Remove the glass (see page 40). Remove the logs and coals (if installed - page 43)

2 Remove the ember tray and burner tray cover (see the illustration below).

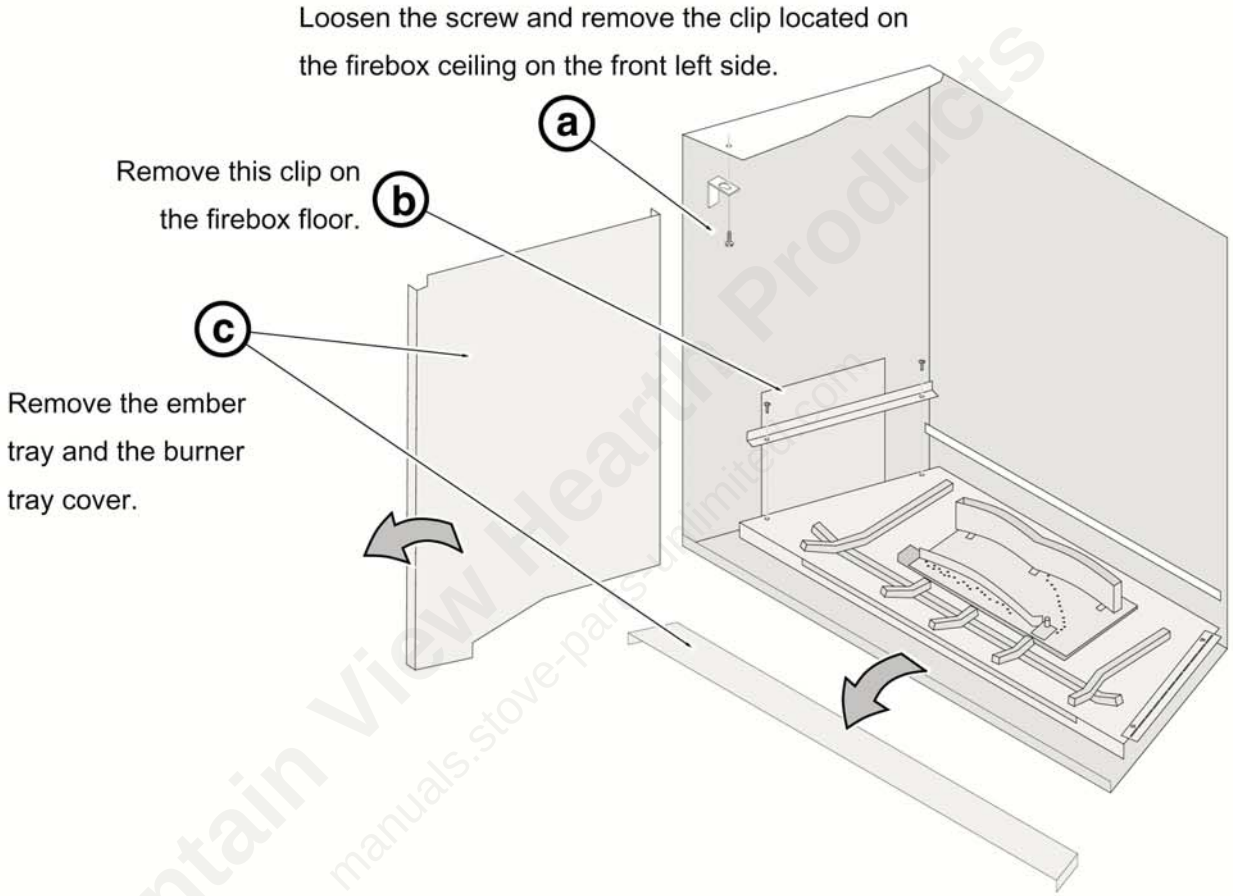


Figure 30

3 Remove the firebox floor following the directions below.

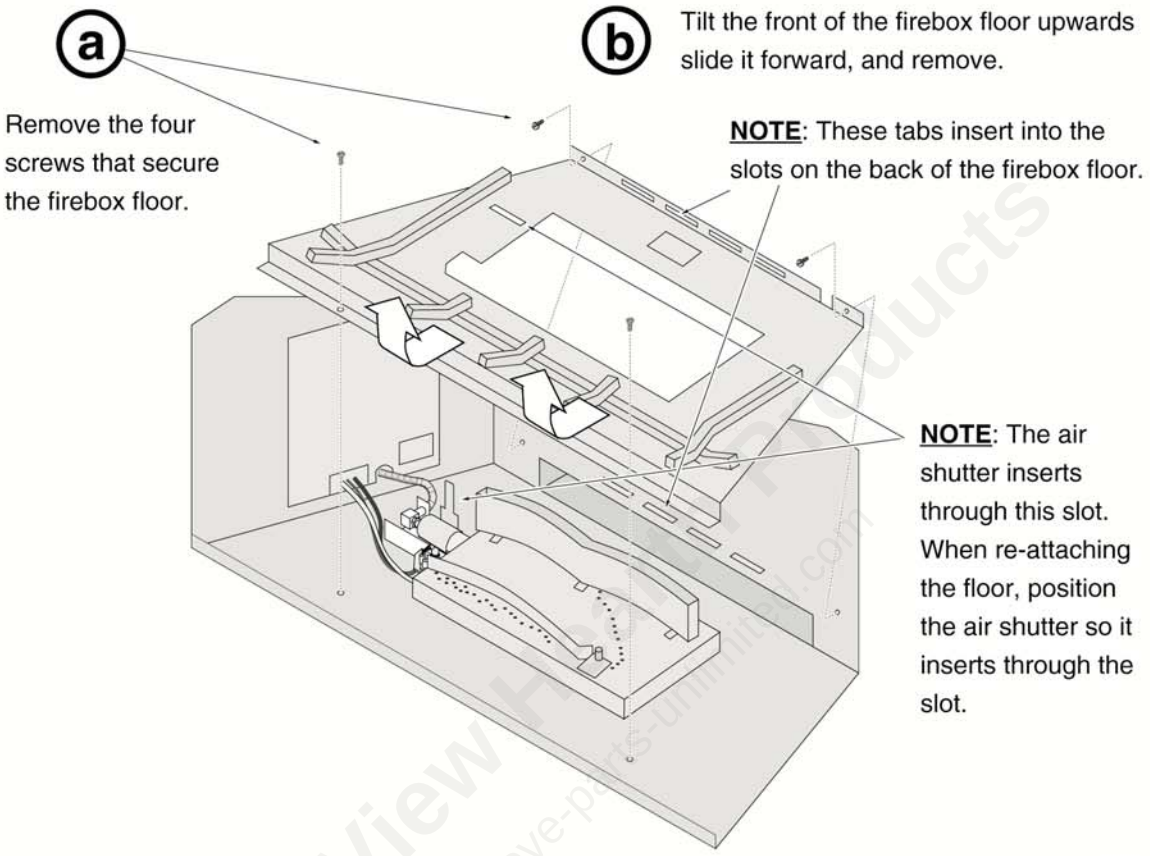


Figure 31

4 Remove the burner following the directions below.

Remove the four screws securing the burner to the firebox floor.

Slide the burner to the right and up to remove.

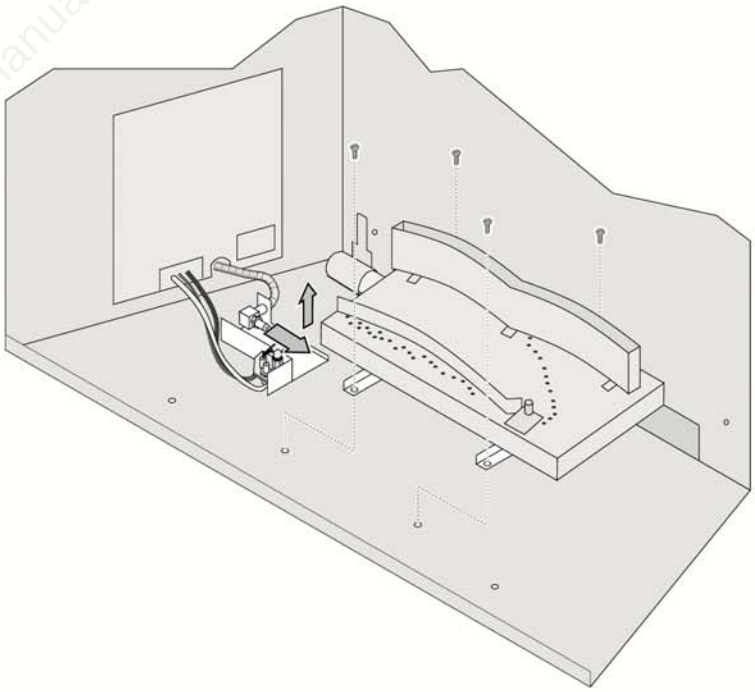
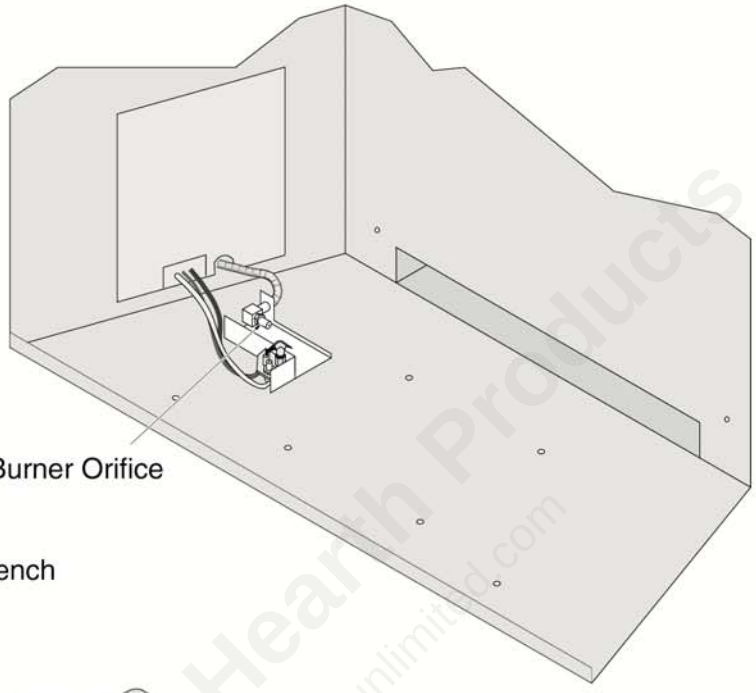


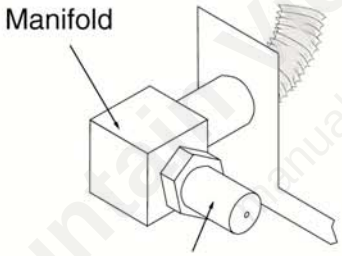
Figure 32

5 Follow the directions below to replace the orifice.



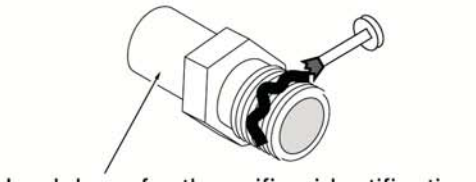
ⓐ

Use a 1/2" open end wrench to unscrew the orifice.

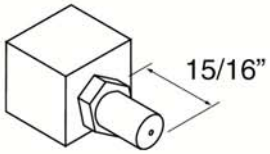


ⓑ

Apply thread sealant to the LP orifices prior to installation. Use the chart below to identify the correct orifices.



NG	LP
#33	#50



ⓒ

Screw each LP orifice in so the orifice protrudes 15/16" (indicating full insertion).

Figure 33

6 Switch the pilot hood to the "LP" size following the directions below.

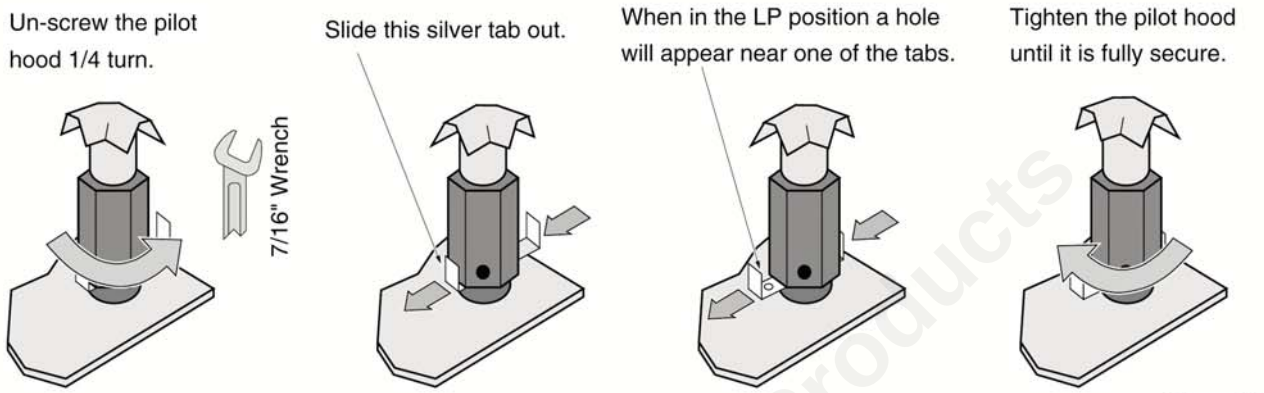


Figure 34

NOTE: The sliding portion of the pilot orifice may be positioned differently. Instead of pulling it towards you, you may push it away. Either way – when the hole appears near the tab, the orifice is in the LP position.

7 Disconnect the burner tray and place it on the firebox floor (see Figure 35).

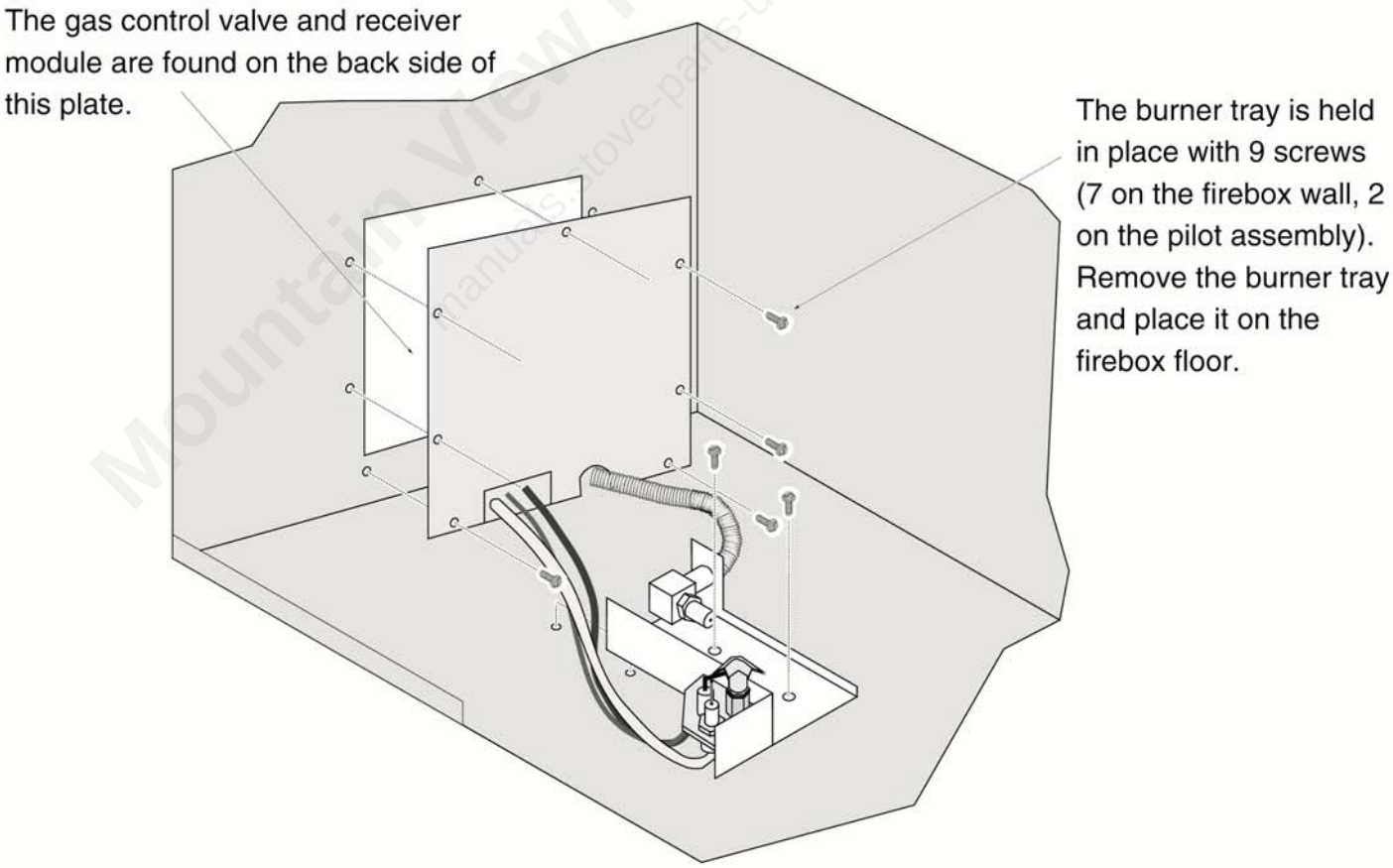


Figure 35

8 The gas control valve has a propane conversion shaft that alters the outlet pressure. Remove the rubber cap over the propane conversion shaft and twist the small knob so the line points to "LP" (see Figure 36).

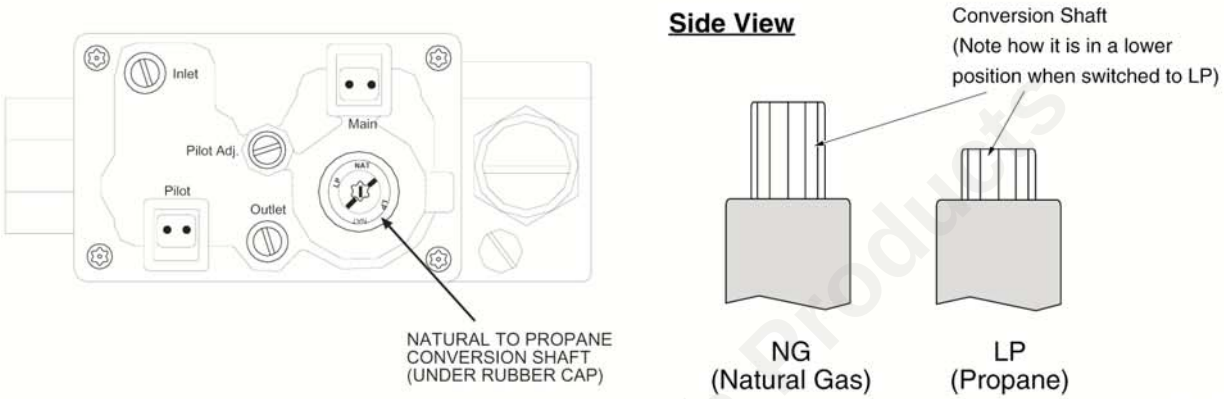


Figure 36

9 Remove the NG rate screw and replace it with the LP rate screw included in the owner's pack (see Figure 37). Take care to not damage the rubber o-ring on the rate screw when installing.

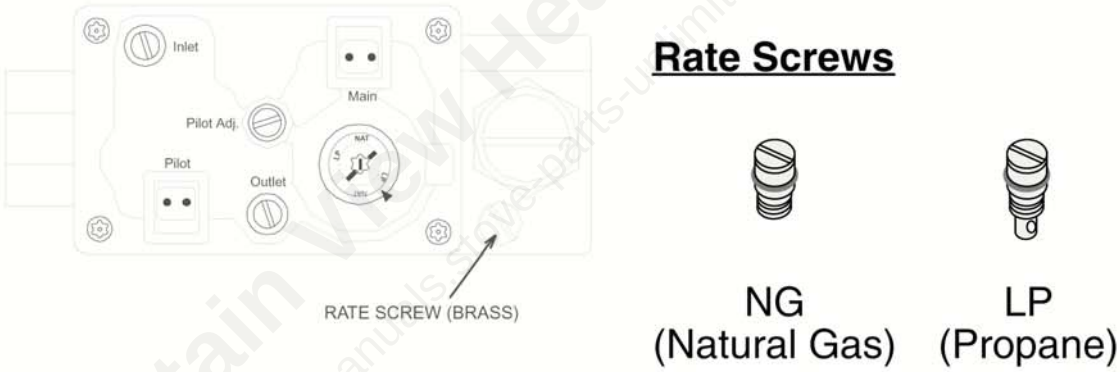


Figure 37

10 Replace the burner tray, burner assembly, and grate. Install the logs and embers and replace the glass.

11 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leak-test all gas connections and the gas control valve (see Gas Line Requirements on page 16 for details). Check the pilot and adjust if necessary.

SWITCHING DEVICES

TRAVIS INDUSTRIES
HOUSE OF FIRE

Rocker Switch

Wall Thermostat

Remote Thermostat Control

Remote Fireplace Thermostat Control

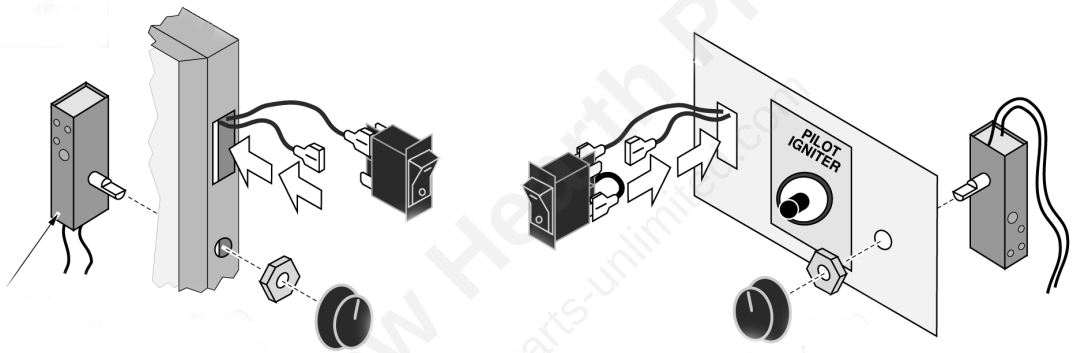
Alpha Remote

Omega Remote

Rocker Switch

Travis Industries gas appliances are designed to be used with multiple on/off burner switching devices.

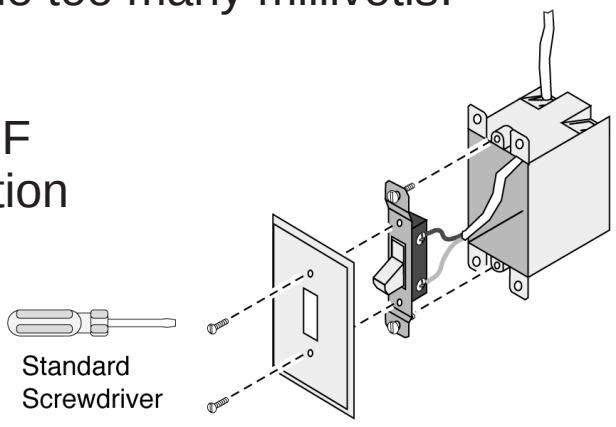
All units come with a convenient rocker switch to turn the main burner ON or OFF.



- Burner ON/OFF
- Rocker switch (Standard in all units)

Another option is a wall switch and is often used in a fireplace application. Care must be taken to not exceed the recommended wire size and length. Do not install a three way switch (Two switches - two points of control) as it will consume too many millivotls.

- Burner ON/OFF
- Wall switch option
- (Fireplace)



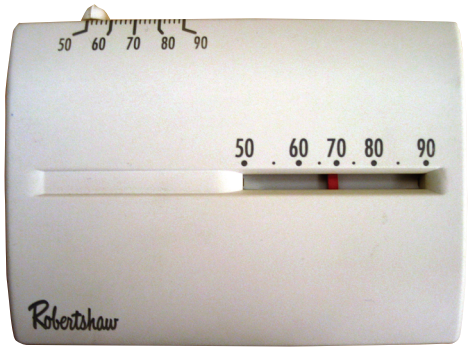
Wall Thermostat

For customers who want total room comfort, a wall thermostat should be considered.

Placement of the thermostat is important to provide proper operation.

Thermostat Placement	
DO	DON'T
Install about 5 foot from floor	Install over other heat source or heat ducts
Install on inside wall	Install over a TV or lamp causing false heat sensing
Place in a central area of the room for best control	Exceed 20 feet of #18 gauge wire

- Burner ON/OFF
  Wall thermostat option
  (Used with all units
  20 foot of #18 wire)



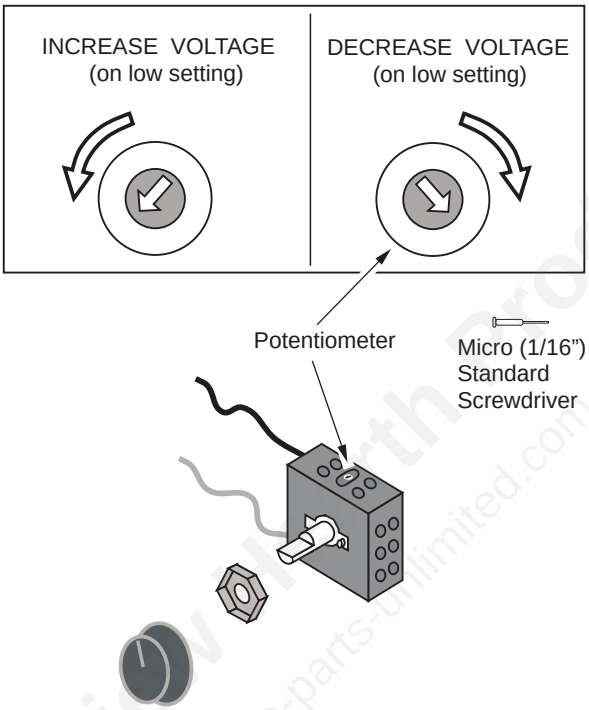
Remote Options

Remote Thermostat	- Personal Thermostat - ON/OFF Function - Timed OFF (up to 2 hours) - Sender uses 3 AA batteries - Receiver operates on 110 volts - Has four operational frequency settings - Has unlimited operational frequency settings - 6 hour, no charge shut off
Remote Fireplace Thermostat	- Personal Thermostat - ON/OFF Function - Timed OFF (up to 2 hours) - Sender uses 3 AAA batteries - Receiver uses 4 AA batteries - ON/OFF manual switch - Receiver is mounted in the wall - 6 hour, no charge shut off

The Positive and Negatives of Switching Devices

DEVICE	POSITIVE	NEGATIVE
ON/OFF Rocker Switch	• Simple to use	• Consumer must get up to turn unit ON/OFF
Wall Thermostat	• Set it and forget it • Best for total room comfort control • Millivolt set back thermostats may be used	• More difficult to install
Remote Thermostat	• Finger tip ON/OFF control • Personal thermostat	• Some consumers will NEVER learn how to use • Batteries will need occasional replacement • Can not be used when electricity goes out - must use manual rocker switch • Temperature control is determined by placement of the hand-held sender
Remote Fireplace Thermostat	• Fingertip ON/OFFcontrol • Personal thermostat • Works without electricity	• Some consumers will NEVER learn how to use • Batteries will need occasional replacement • Temperature control is determined by placement of the hand-held sender • Requires installation into wall

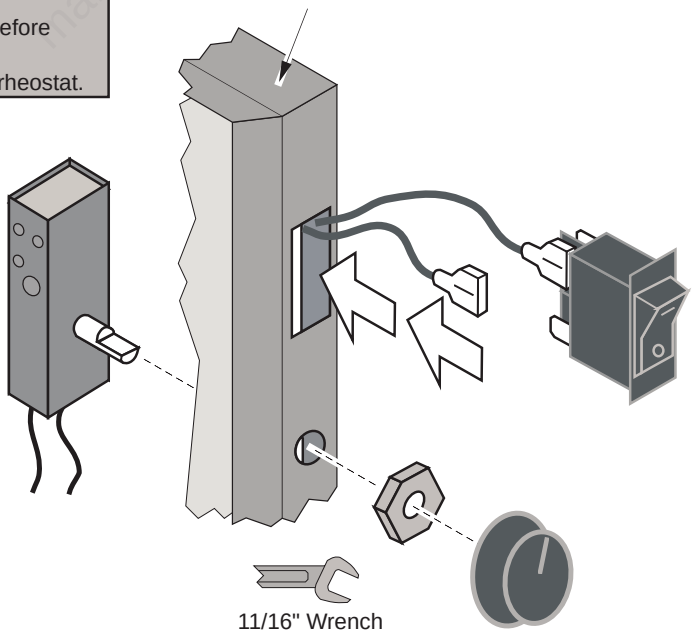
Rheostats



WARNING:

Make sure the heater is unpluged before installing the rheostat.

Upper Right of Trim



Remote Controls

- Burner on/off

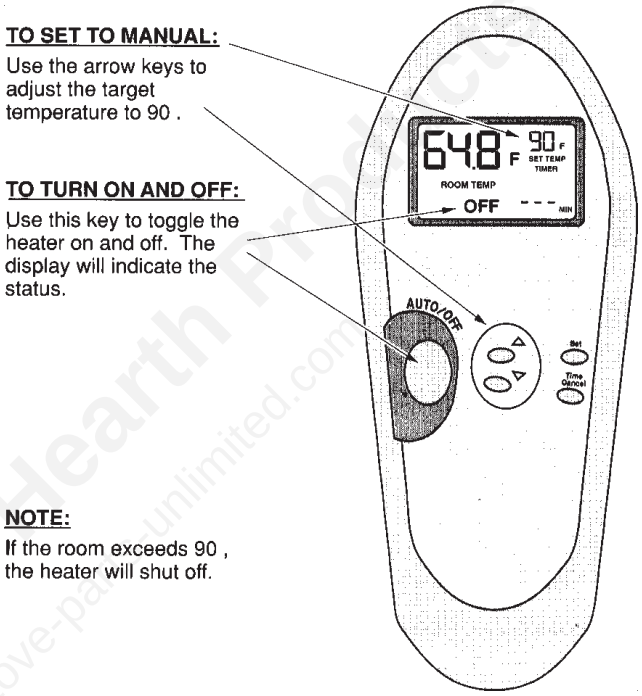
  Remote option (insert and freestanding units)

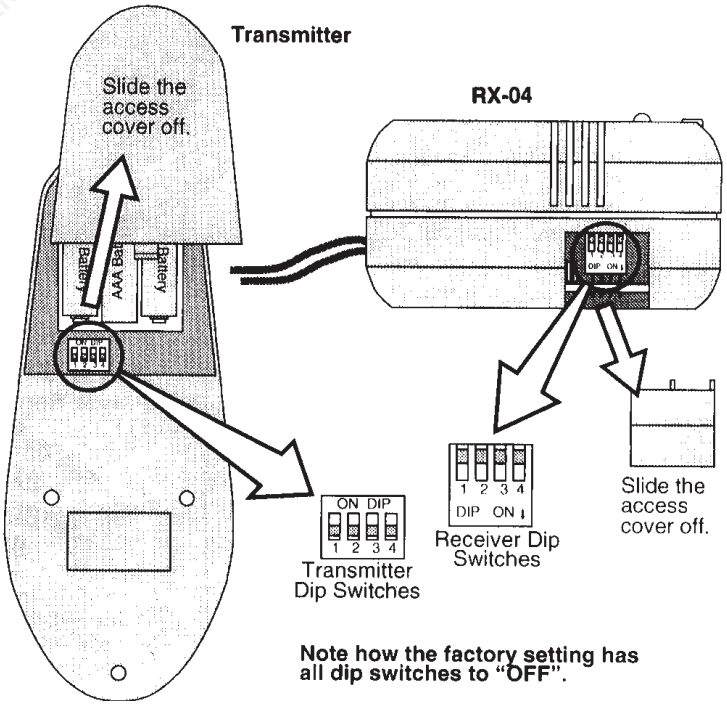
  Remote on/off

  Remote thermostat

  Timed off remote

  Requires 3 AAA batteries 110 Volt

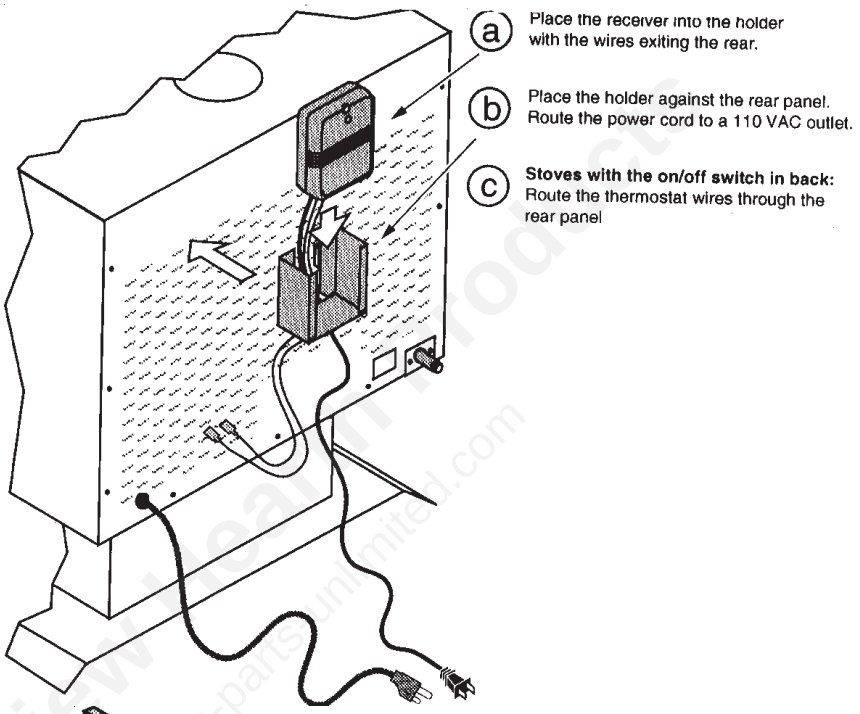




Remote Controls

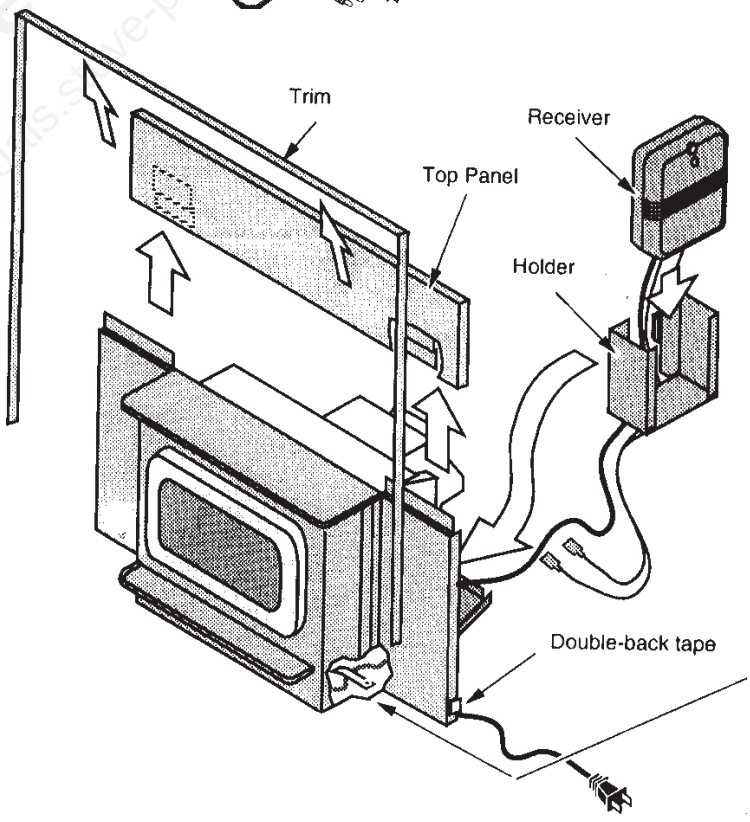
- Remote Control

  Freestanding Stove Installation



- Remote Control

  Fireplace Insert Stove Installation

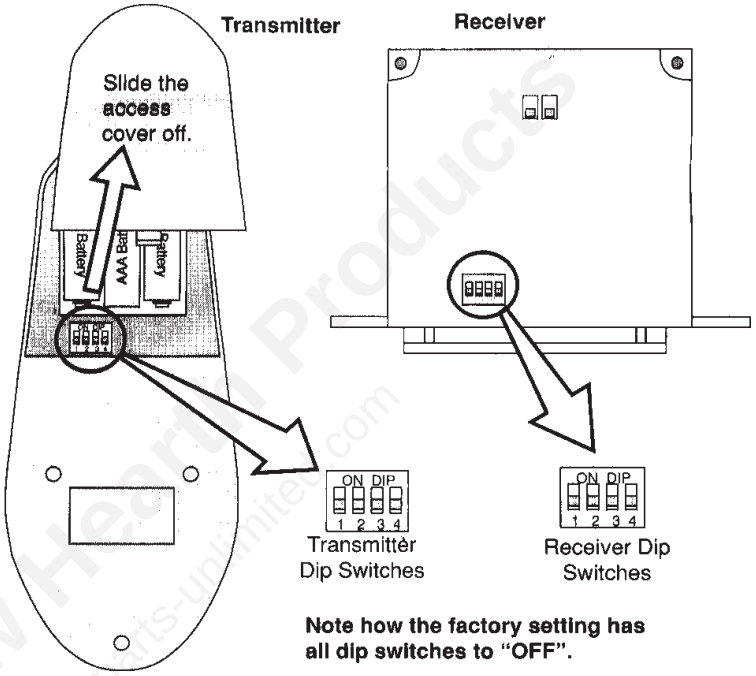


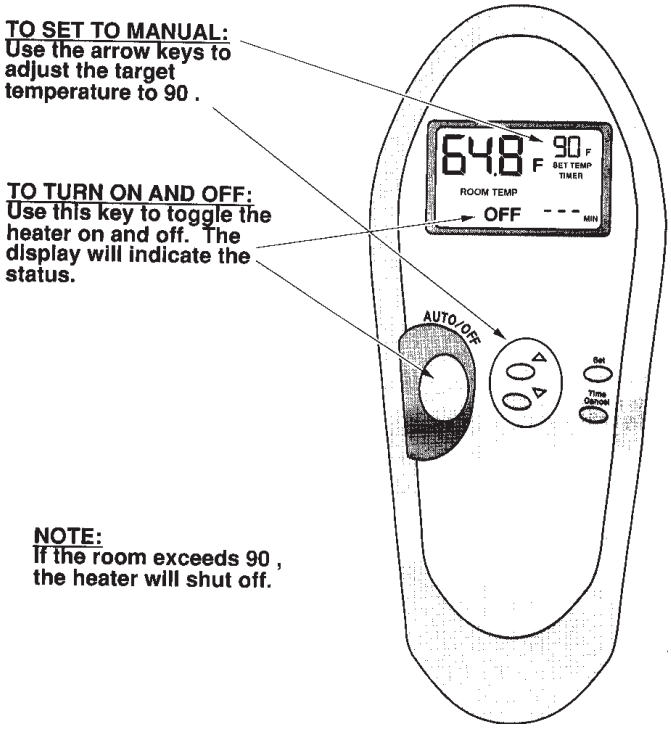
Fireplace Remote Controls

- Burner ON/OFF

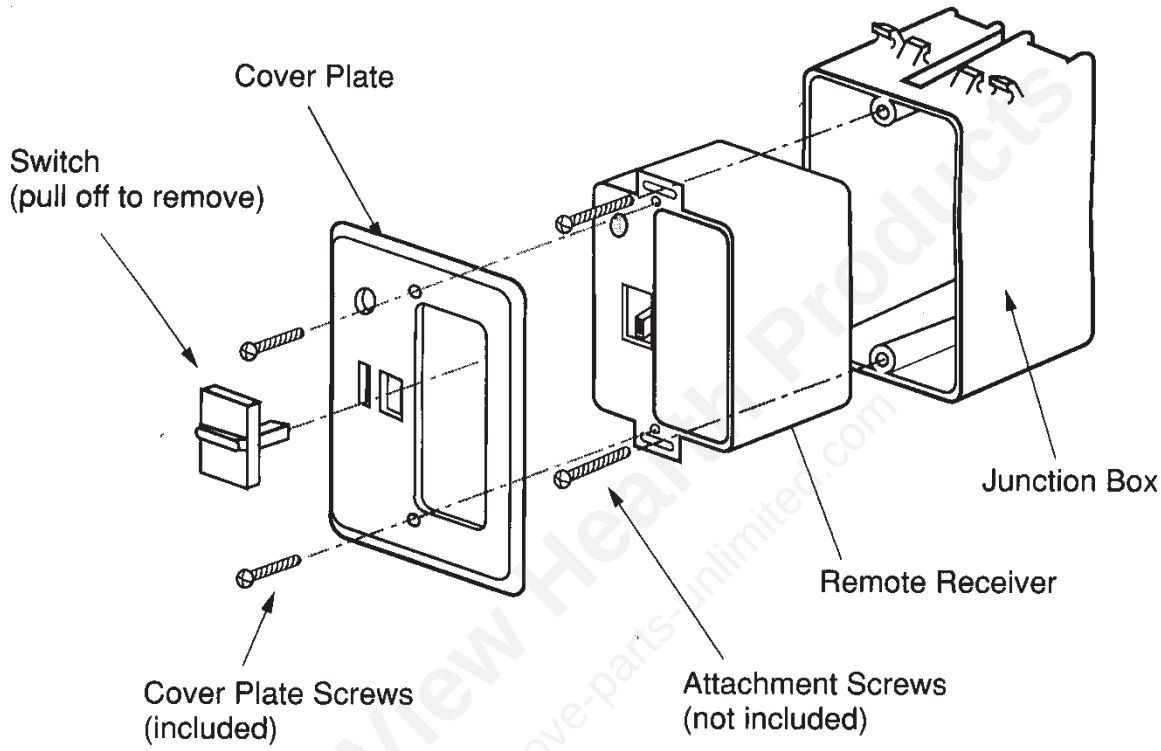
- Remote Option (Fireplace)
- Remote ON/OFF
- Remote Thermostat
- Timed OFF Remote

- Child Proof Code (UD DUD)
- Requires
  3 AAA Batteries
  4 AA Batteries

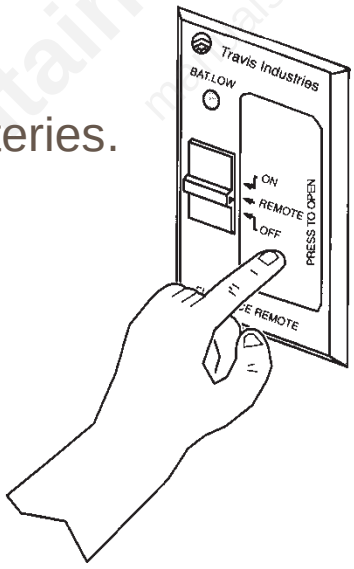


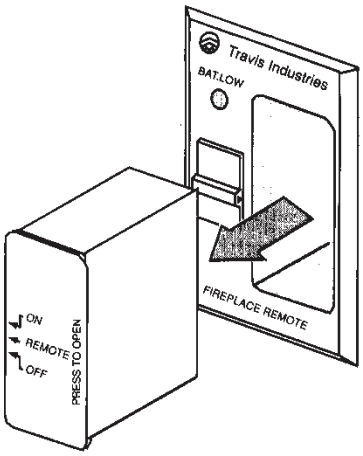


Fireplace Remote Controls



Requires
4 AA batteries.





Omega Gas Remote Control

Modulating Remote

- **COMPATIBILITY**

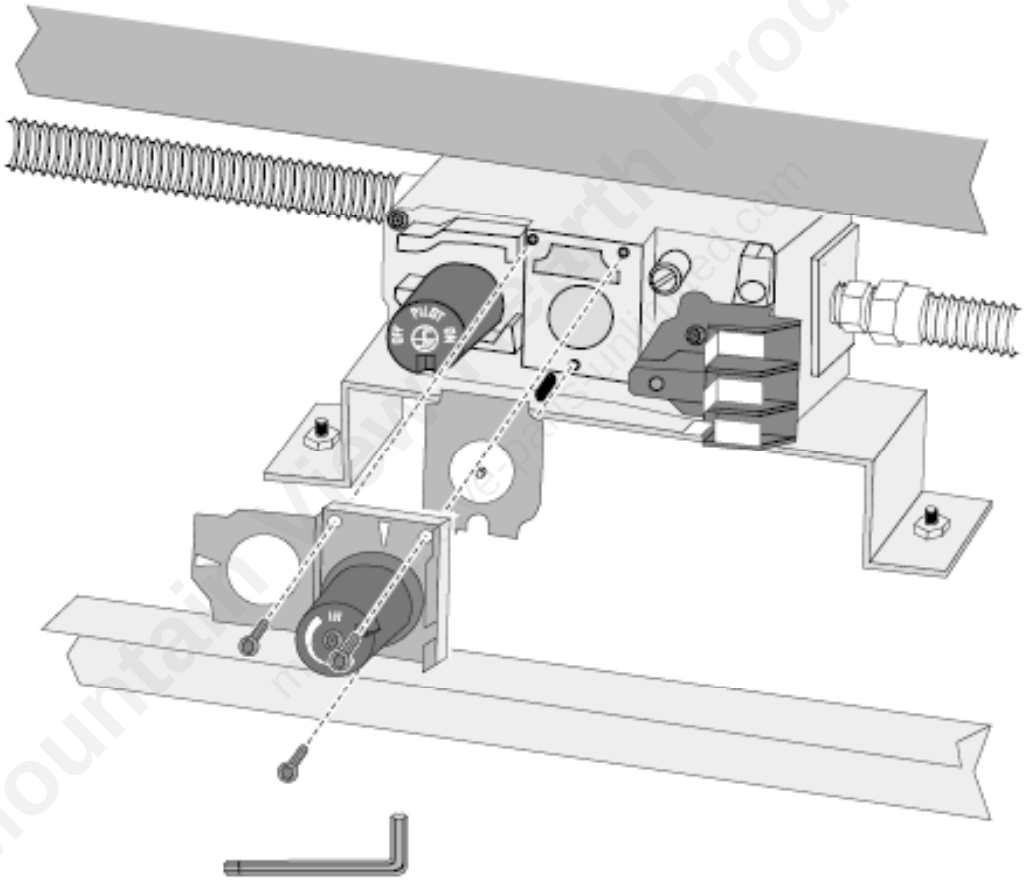
Avalon:
Prairie, Salish, Cedar, 21 DV Hideaway, Tree of Life, Winthrop TRV, Winthrop HH

Lopi:
Berkshire, Heritage, Sturbridge, Sweet Dreams, 21 DV, Hearthview TRV, Hearthview HH

FPX:
44 DV XXL, 21 DV, DVL Fireplace, 864 TRV, 864 HH

Omega Gas Remote Control

Removing the regulator

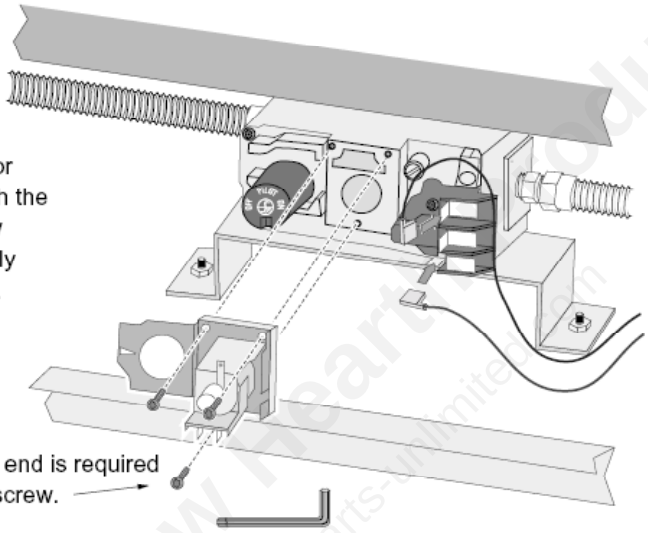


Omega Gas Remote Control

Install the modulating regulator

ⓑ

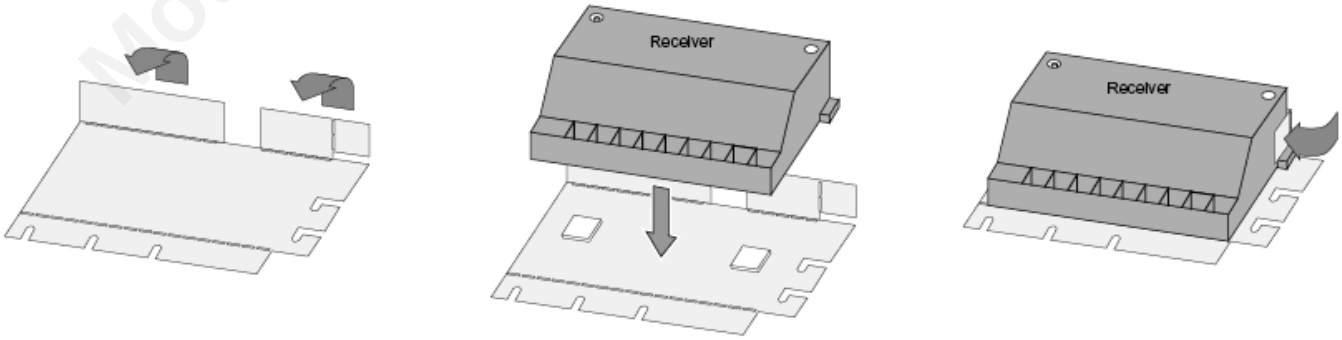
Install the modulating regulator using the screws included with the regulator. Make sure the new rubber gasket is in place. Fully tighten the screws (25 In.Lb.).



ⓒ

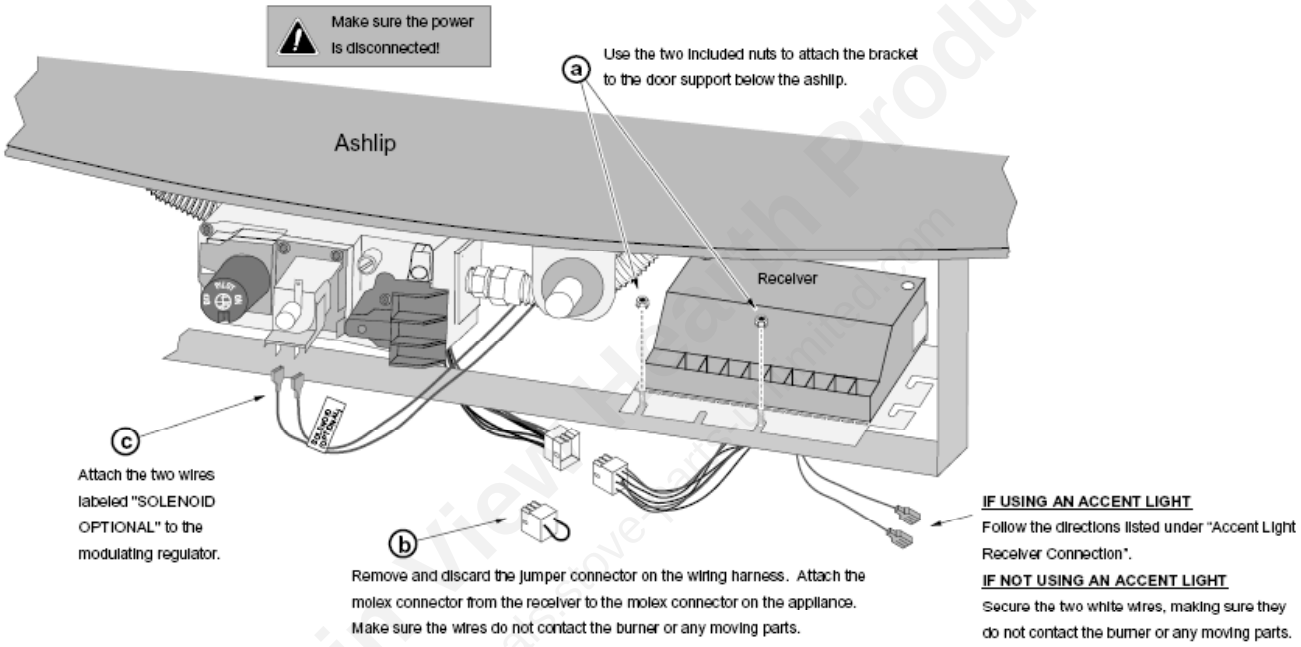
Make sure the two remote on/off wires (red and brown) from the wiring harness are attached to the top and bottom terminals on the gas control valve (orientation does not matter).

Receiver Installation



Omega Gas Remote Control

Receiver Installation - Sturbridge

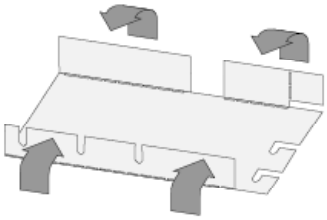


Omega Gas Remote Control

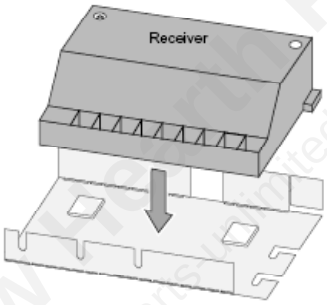
Receiver Installation:
Berkshire & Tree of Life

Receiver Installation – Berkshire, Prairie, Tree of Life, and Allegiance

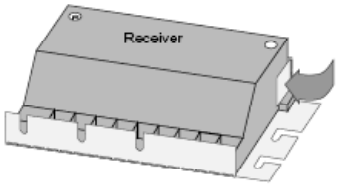
Bend the receiver bracket as shown below.



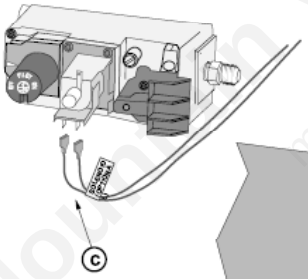
Attach the two pieces of double-sided tape to the bracket. Place the receiver as shown on top of the tape.



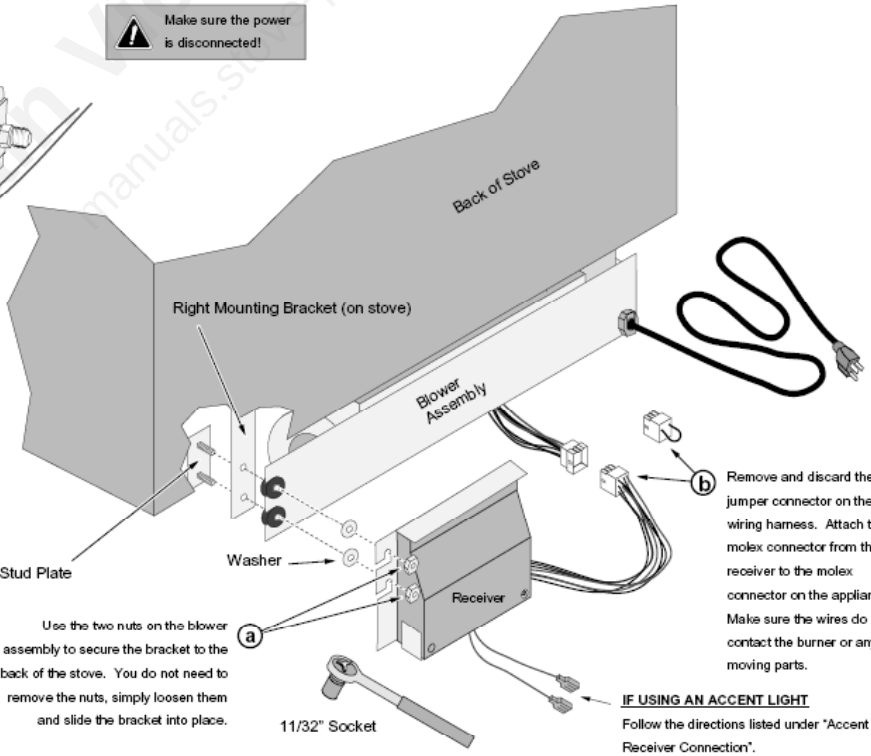
Bend the side tab inwards as shown below.



Make sure the power is disconnected!



Ⓒ Attach the two wires labeled "SOLENOID OPTIONAL" to the modulating regulator.



Ⓐ Use the two nuts on the blower assembly to secure the bracket to the back of the stove. You do not need to remove the nuts, simply loosen them and slide the bracket into place.

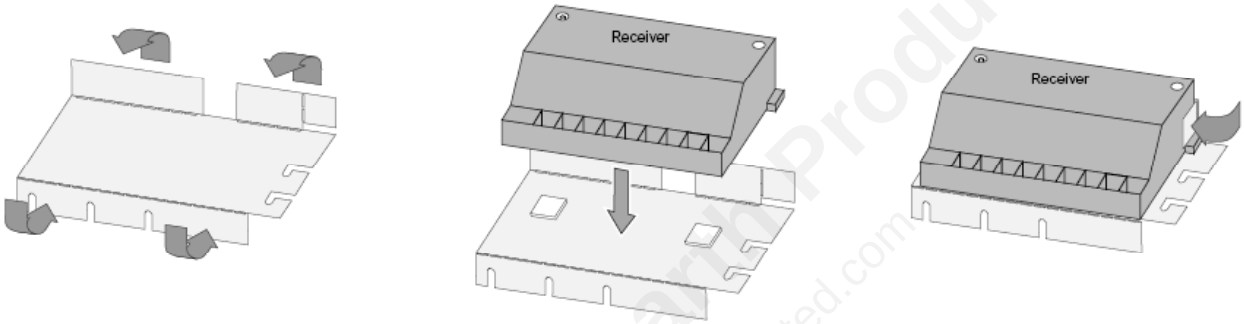
Ⓑ Remove and discard the jumper connector on the wiring harness. Attach the molex connector from the receiver to the molex connector on the appliance. Make sure the wires do not contact the burner or any moving parts.

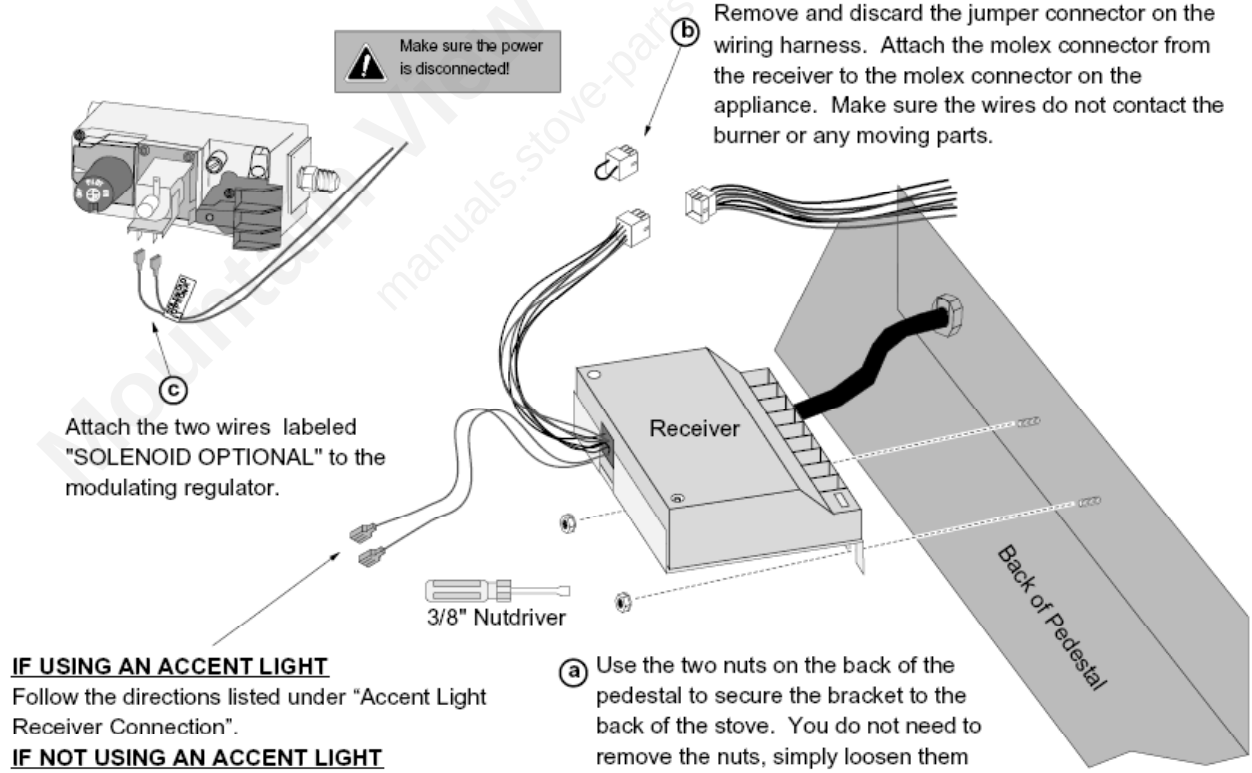
IF USING AN ACCENT LIGHT
Follow the directions listed under "Accent Light Receiver Connection".

IF NOT USING AN ACCENT LIGHT
Secure the two white wires, making sure they do not contact the burner or any moving parts.

Omega Gas Remote Control

Receiver Installation:
Salish & Heritage





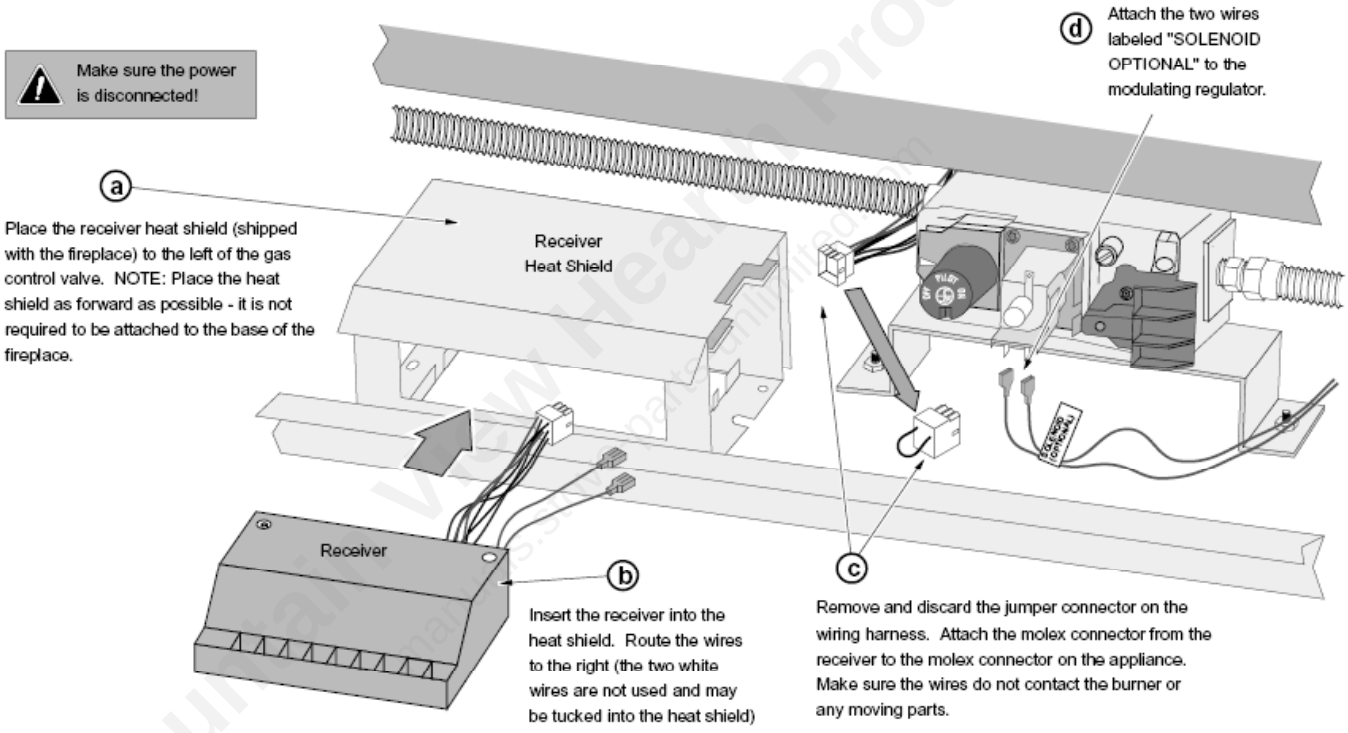
IF USING AN ACCENT LIGHT
Follow the directions listed under "Accent Light Receiver Connection".

IF NOT USING AN ACCENT LIGHT
Secure the two white wires, making sure they do not contact the burner or any moving parts.

(a) Use the two nuts on the back of the pedestal to secure the bracket to the back of the stove. You do not need to remove the nuts, simply loosen them and slide the bracket into place.

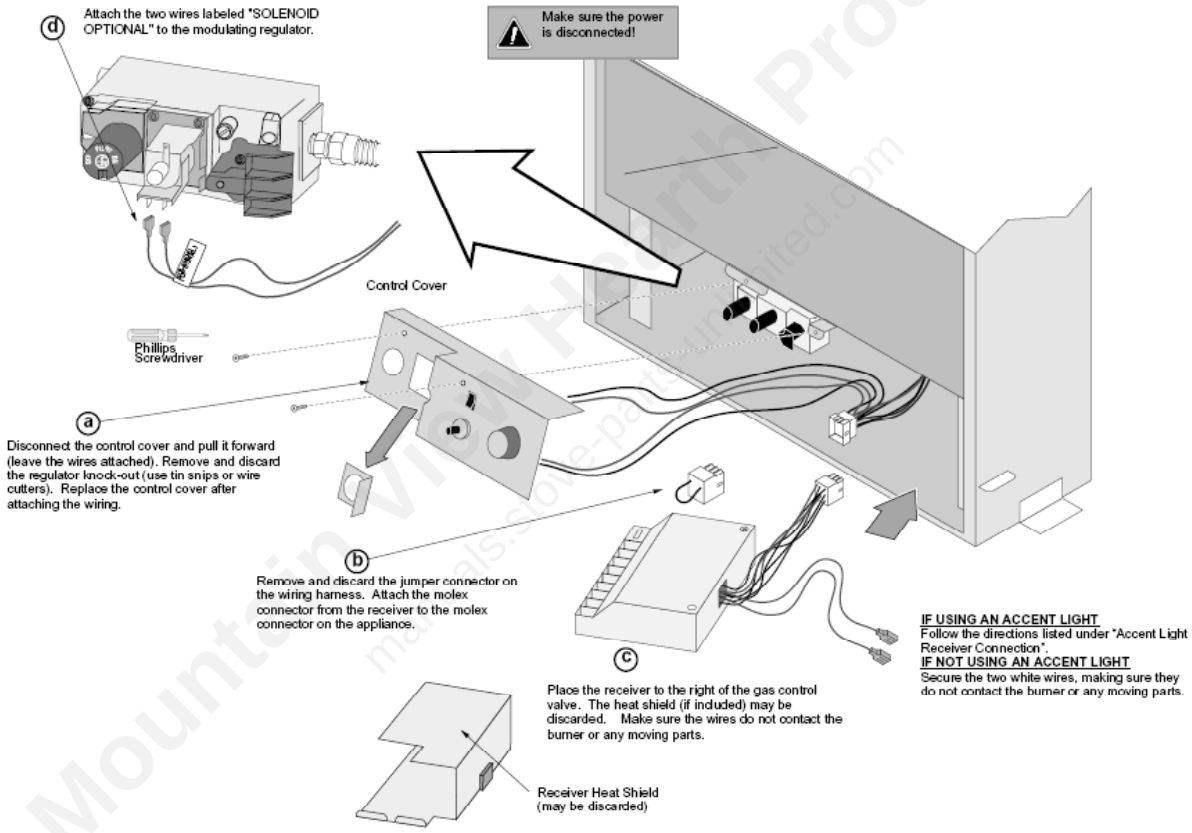
Omega Gas Remote Control

Receiver Installation:
FPX 44 DV-XXL



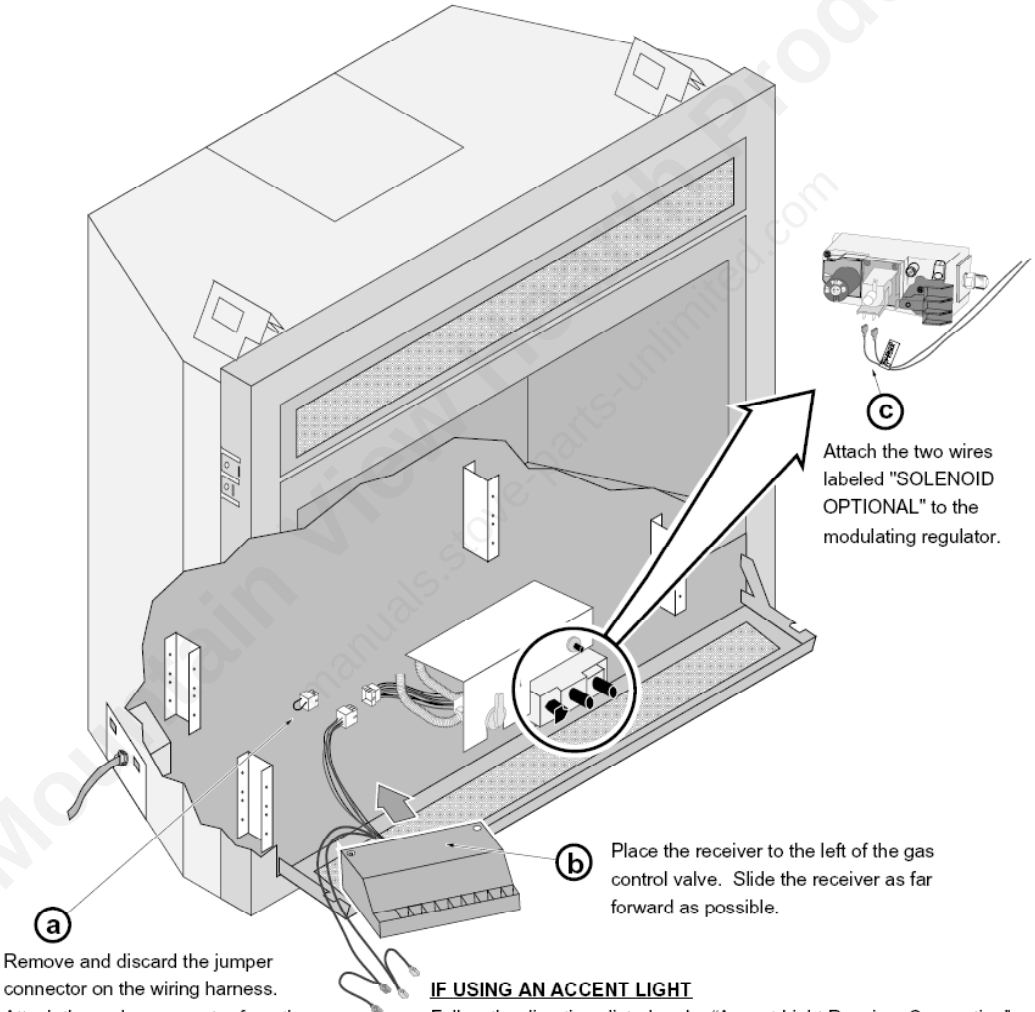
Omega Gas Remote Control

Receiver Installation:
21 TRV & Sweet Dreams



Omega Gas Remote Control

Receiver Installation:
864 TRV & 864 HH



IF USING AN ACCENT LIGHT
Follow the directions listed under "Accent Light Receiver Connection".

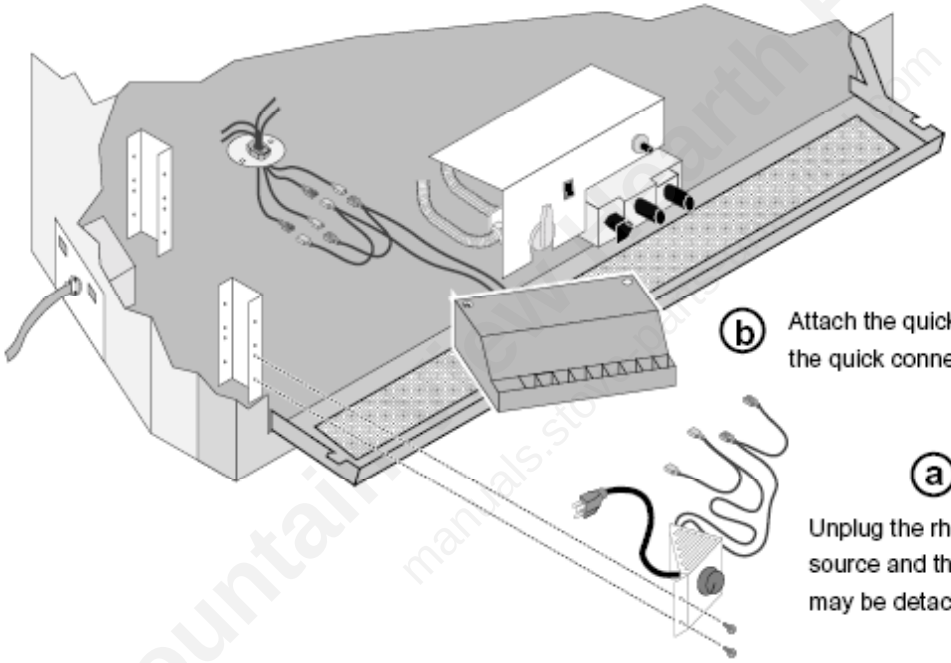
IF NOT USING AN ACCENT LIGHT
Secure the two white wires, making sure they do not contact the burner or any moving parts.

TRAVIS INDUSTRIES
HOUSE OF FIRE

Omega Remote- Accent Light Receiver Connection

864 TRV & 864 HH

<u>864 TRV or 864 HH</u>

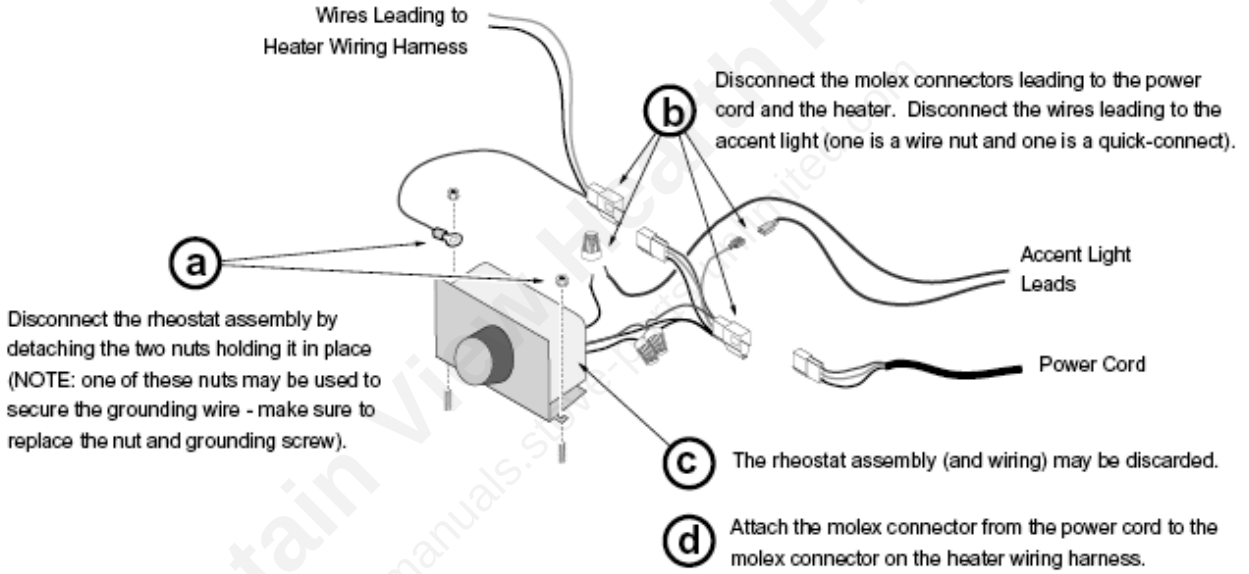


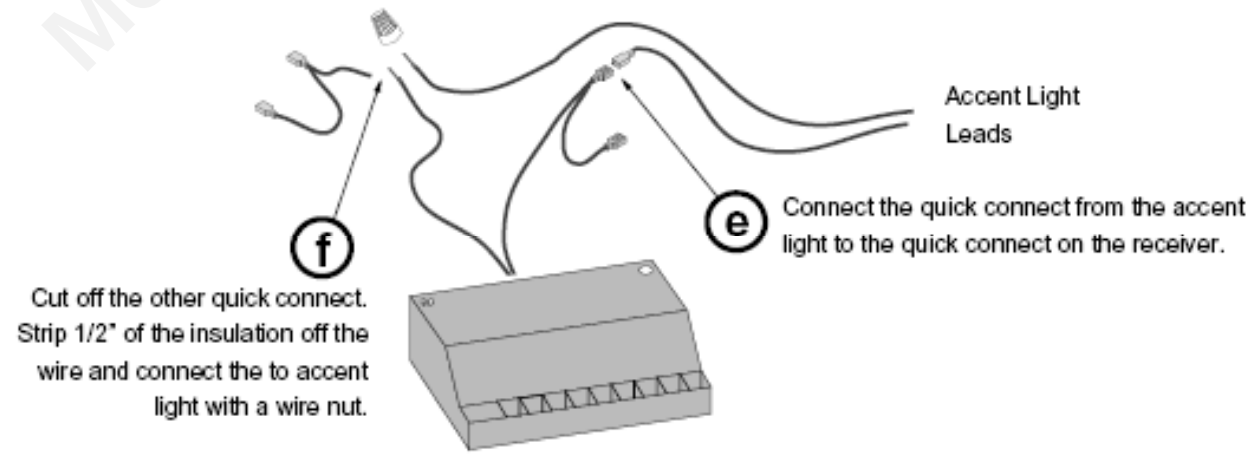
(b) Attach the quick-connects from the receiver to the quick connects on the accent light leads.

(a) Unplug the rheostat assembly from the power source and the accent light leads. This assembly may be detached and discarded.

Omega Remote- Accent Light Receiver Connection

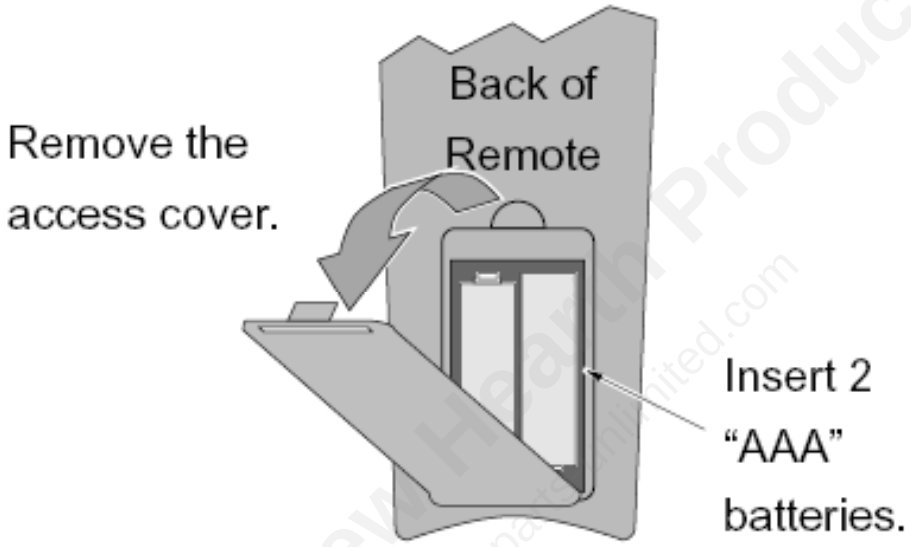
All Other Models That Can Accept Accent Lights





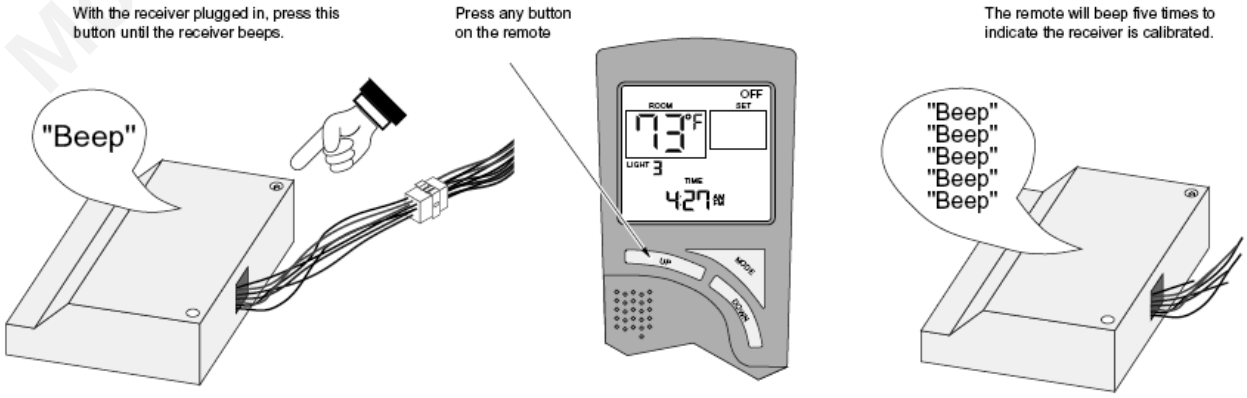
Omega Gas Remote Control

Installing Batteries



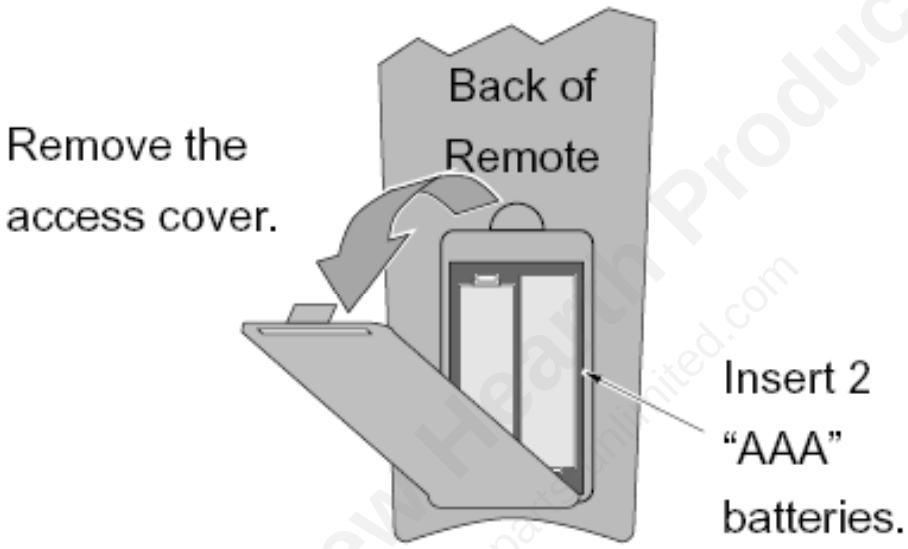
Calibrating the Remote to the Receiver

Each remote has a unique identification. To calibrate it to the receiver in the heater, follow the directions below.



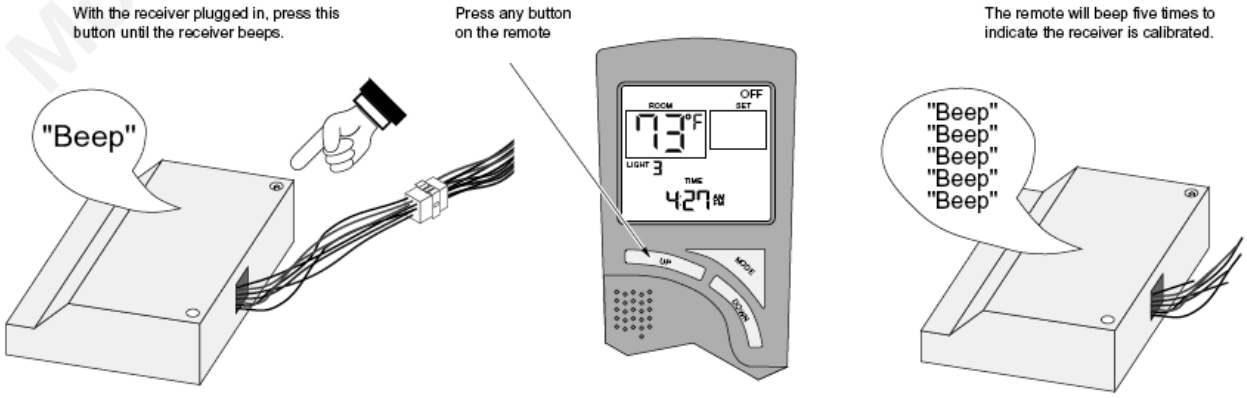
Omega Gas Remote Control

Installing Batteries



Calibrating the Remote to the Receiver

Each remote has a unique identification. To calibrate it to the receiver in the heater, follow the directions below.



Omega Gas Remote Control Set-Up

2. Press the “UP” or “DOWN” button for each of the settings shown in the table below. When the desired setting is achieved, press “OK” to accept the setting.

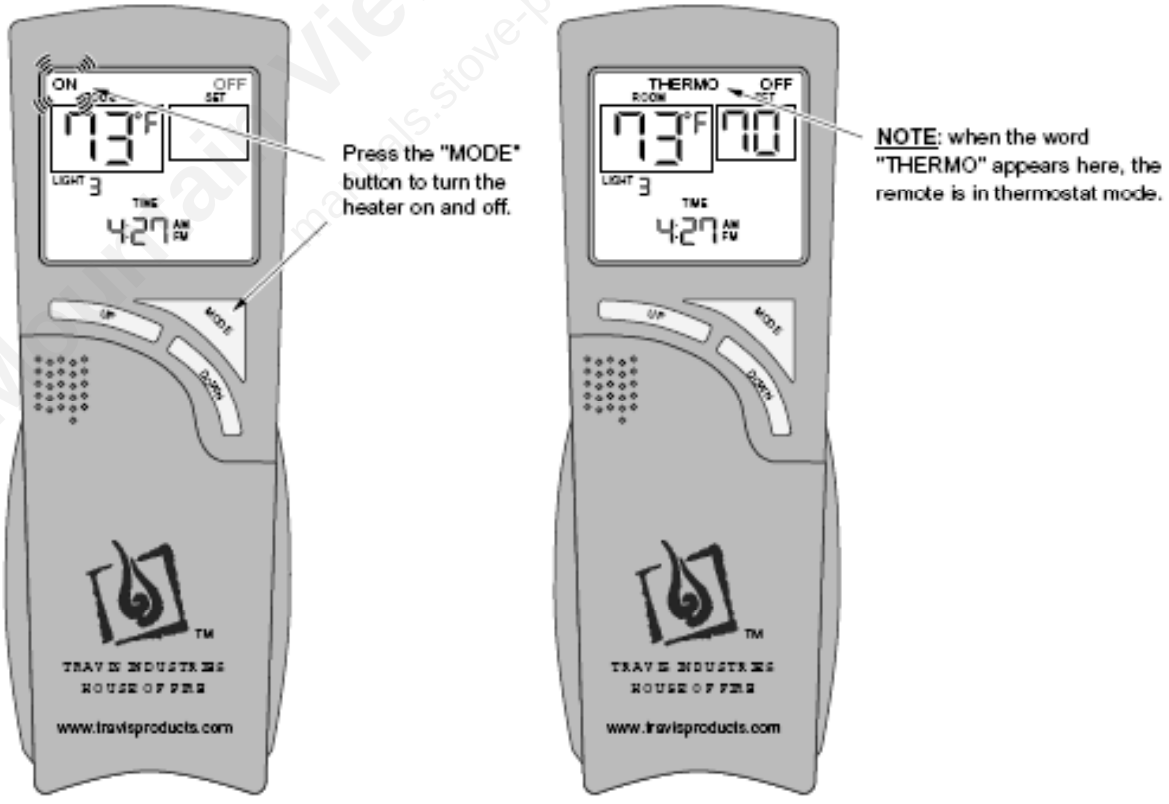
Celcius / Fahrenheit	Set the remote to display Celcius (“C” will appear next to the temperature) or Fahrenheit (“F”).
Anticipator	The anticipator setting (also called the “lag” or “differential”) is used to keep the thermostat from turning the heater on and off repeatedly. This setting is set in degrees. It determines at what point above or below the desired heat setting the thermostat will signal the heater to turn on or off. The higher the anticipator setting, the less frequently the heater will turn on and off. The default setting is +2° / -2°.
NG / LP	Change this to the fuel type being used.
Clock – Hour	Set this to the correct hour (make sure the AM / PM display is correct)
Clock- Minute	Set this to the correct minute.

Omega Gas Remote Control Set-Up

The Two Modes of Operation

- **Manual** Use the remote to turn the heater on and off.

- **Thermostat** This mode allows the remote to turn the heater on and off automatically to achieve a pre-set temperature.



Omega Gas Remote Control Set-Up

Heater Adjustments

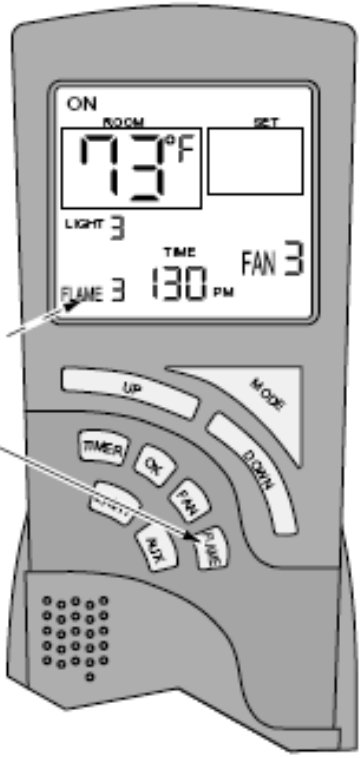
NOTE : The heater must be on (Manual or Thermostat mode) for this feature to operate.

NOTE : The flame adjustment may take 5 to 10 seconds for a visible difference in flame size.

TO ADJUST FLAME HEIGHT

Press the "FLAME" button until the desired setting appears the display.

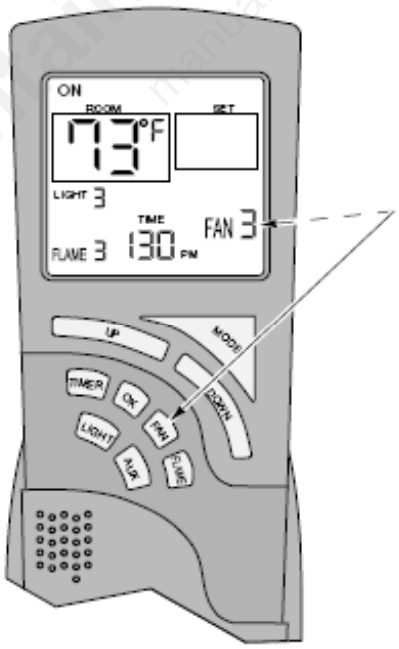
1 = LOW
2 = MEDIUM
3 = HIGH



Omega Gas Remote Control Set-Up

Fan Speed

- NOTE : The fan will not turn on until the heater is up to temperature (it will also shut down once the heater has cooled).
- NOTE : When the heater is first started the default fan speed will be 1 (“LOW”).
- NOTE : The fan speed can not be changed unless the heater is on.



TO ADJUST FAN SPEED

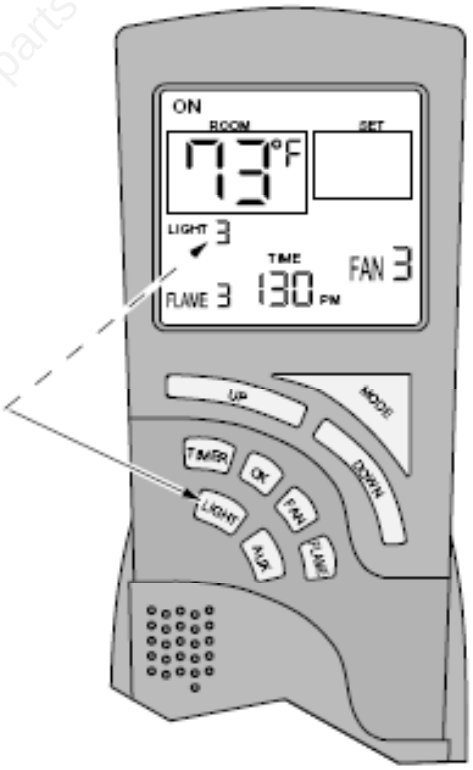
Press the “FAN” button until the desired setting appears the display.

1 = LOW
2 = MEDIUM
3 = HIGH
OFF

Omega Gas Remote Control Set-Up

Accent Light

- NOTE : The light will remain on whether the heater is on or off.
- Make sure to shut off the accent light to prevent the light bulb from burning out.



TO ADJUST ACCENT LIGHT

Press the "LIGHT" button until the desired setting appears the display.

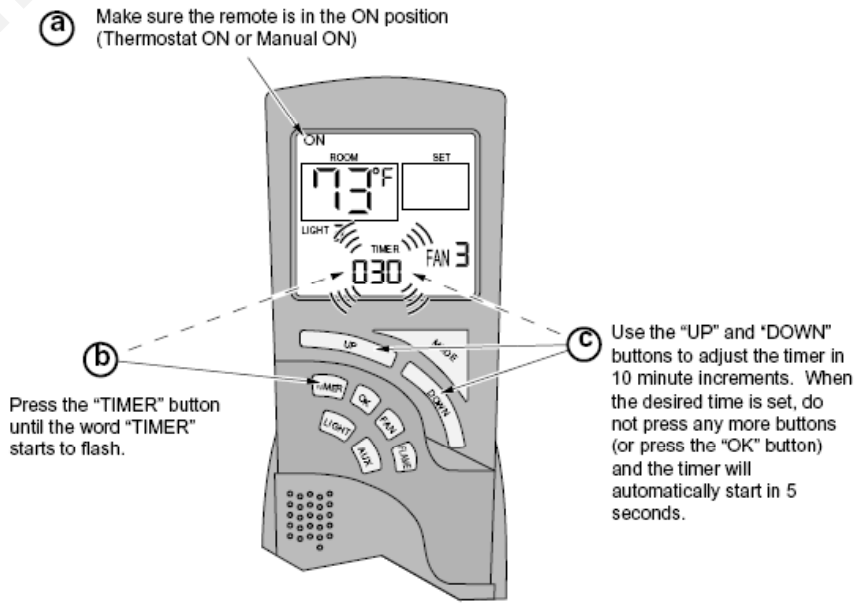
1 = LOW
2 = MEDIUM
3 = HIGH
OFF

Omega Gas Remote Control Set-Up

Additional Features - Timed

- **This feature allows you to set the time you wish the heater to remain on (up to 3 hours).**
- **Timed Feature While in Manual Mode:** The remote will turn the heater on for the allotted time, after which the heater will shut off.
- **Timed Feature While in Thermostat Mode:** If the remote is in thermostat mode, the timer feature will only turn the heater on while the target temperature is higher than room temperature.
- After the allotted time passes, the remote will turn off and switch to manual mode.

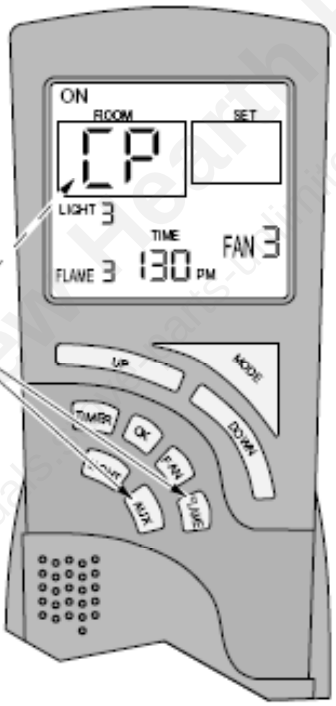
NOTE: At any time if you wish to turn off timer, press the "TIMER" button.



Omega Gas Remote Control Set-Up

Additional Features - Child Proof

- The child proof feature disables the remote transmitter, preventing un-intended operation.



WHEN IN CHILD PROOF MODE
- No buttons will work, and if you hold down a button for a one second, the letters "CP" will appear.

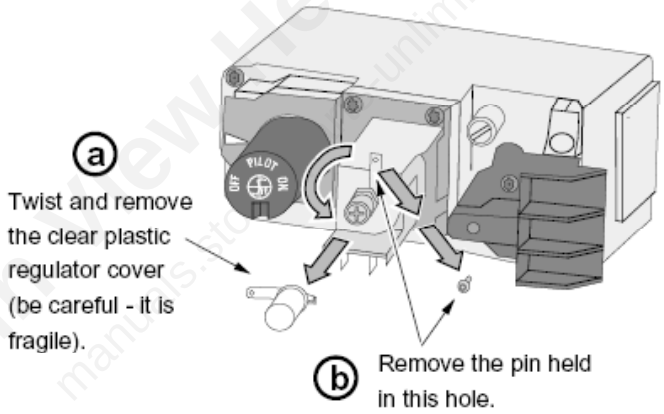
TO TURN ON CHILD PROOF MODE
Press and hold the "AUX" and "FLAME" button for 5 seconds until the letters "CP" appear on the display.

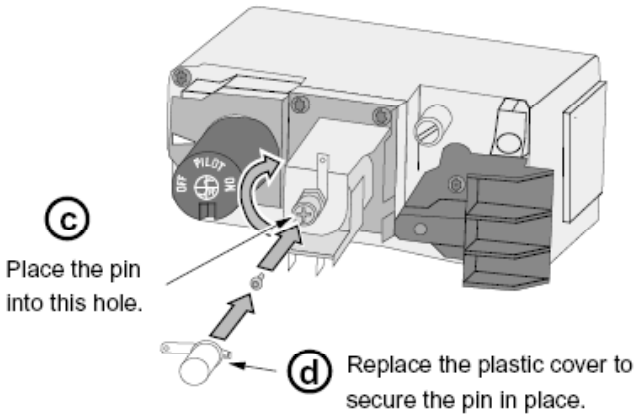
TO TURN OFF CHILD PROOF MODE
Press and hold the "AUX" and "FLAME" button for 5 seconds until the letters "CP" disappear from the display.

Omega Gas Remote Control Set-Up

Power Outages

- Because the remote utilizes a modulating actuator on the flame height regulator, the flame height will go to 20% during a power outage. To over-ride this, and make the heater burn at 100%, follow the directions below. Use the switch on the heater to turn the heater on and off.

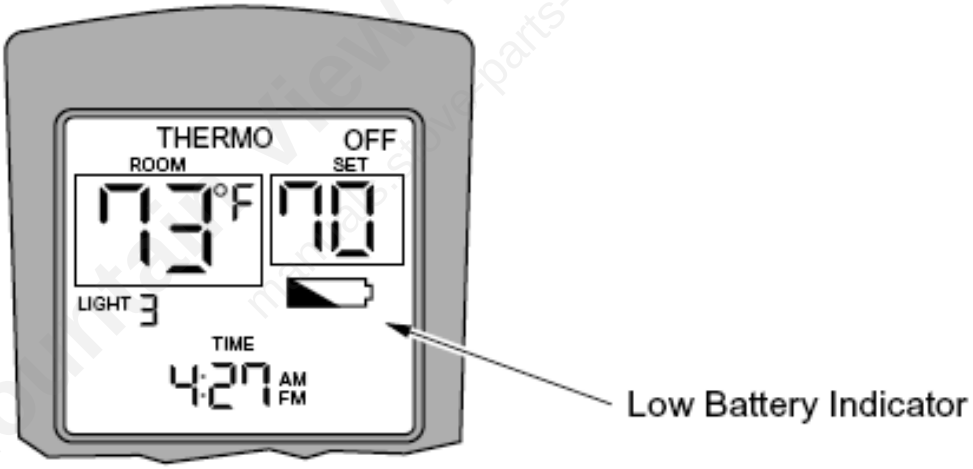




Omega Gas Remote Control Set-Up

Low Battery Indicator

- The remote will display the following indicator when the batteries run low. This indicates the batteries have approximately 2 – 4 weeks of operation before the remote will no longer work.



Omega Gas Remote Control Set-Up

Remote Failure

- The remote sends a verification signal to the receiver every fifteen minutes. If the transmitter is moved to a location out of range, or the batteries are dead, the heater will shut down after 2 hours unless the remote can re-establish contact with the fireplace. If using this remote as a thermostat, remember to check the batteries often.

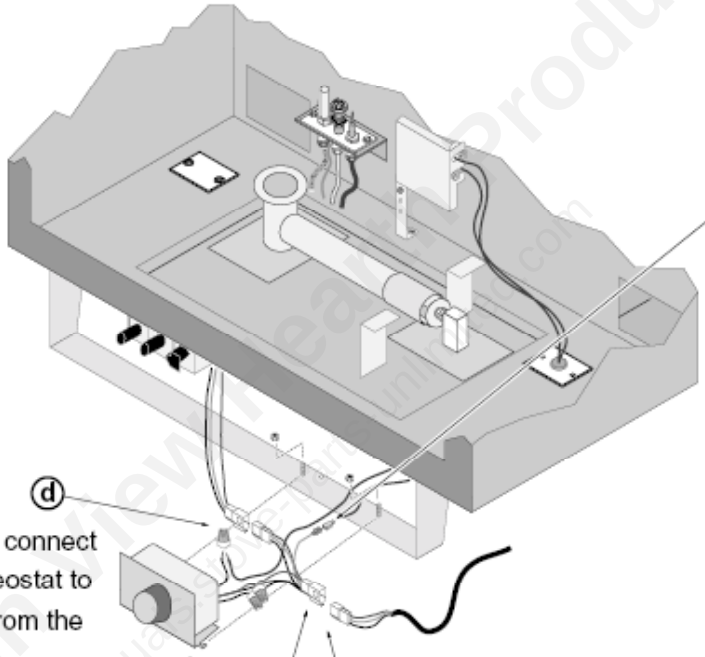
Thermal Safety

- If the receiver (inside the fireplace or near the stove or insert) reaches a temperature of 170° F., it will shut down the heater and start beeping (4 beeps every 2 seconds). It will then remain off until the temperature lowers to 160° F. At that time the user may turn the heater on again.

Omega Gas Remote Control Set-Up

Accent Light

3 Attach the rheostat assembly following the directions below.



ⓒ Attach the quick-connect from the accent light to the quick-connect on the rheostat wiring harness.

ⓓ Use the included wire nut to connect the wire leading from the rheostat to the remaining wire leading from the accent light.

ⓐ Disconnect the molex connector leading to the power cord.

ⓑ Attach the two molex connectors on the rheostat wiring harness to the power cord and the molex connector on the appliance.

ⓔ Slide the rheostat assembly into place and secure with the included nuts.

GAS TROUBLESHOOTING

TRAVIS INDUSTRIES
HOUSE OF FIRE

Rules For Troubleshooting

Gas Control Operation Sequence

Diagnostic Equipment

Developing Trouble Shooting Mentality

- **THINK BEFORE ACTING**
- Avoid the temptation to start throwing parts at the problem.
- Be professional, as our industry already has enough parts changers.
- Think in terms of the following elements in order to have fire.
- Ask what am I missing and why is that missing.

Developing Trouble Shooting Mentality

- **ASK GOOD QUESTIONS**

  What did the fire look like when it went out?

  How long did it burn before it went out?

  How often does this happen?

- When making changes make one change at a time.
- Do not assume anything.
- Sometimes it is "MAGIC". There is **No Logical Explanation**.

Developing Trouble Shooting Mentality

Secret Resources of Many Professionals

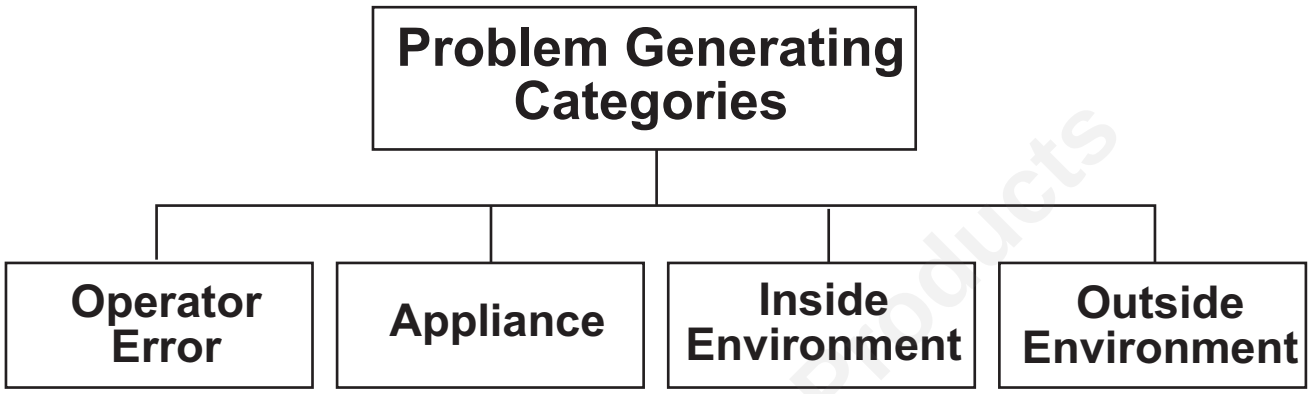
Over the years I have many service professionals tell me about very difficult problems that were unsolvable until they employed a powerful resource. They had tired everything they knew to no avail and then did one simple thing and the mystery was solved. In fact, many now employ this tool at the beginning of the troubleshooting process and save a lot of time.

This revelation given by many service professionals did not surprise me as it too has worked for me over the years.

The powerful tool I am making reference to is PRAYER

RULES FOR TROUBLESHOOTING

TRAVIS INDUSTRIES
HOUSE OF FIRE



- Unrealistic performance expectations
- Improper operation of appliance

- Defective components
- Mis-assembled/ installed
  - Factory
  - Field

- Negative pressure conditions
- Appliance placement & location

- Surrounding buildings, roof lines
- Weather factors

RULES FOR TROUBLESHOOTING

TRAVIS INDUSTRIES
HOUSE OF FIRE

① Understand and Identify the Problem — Ask what, when, where, who, why, tell me about

↓

② Isolate the Problem — Pilot side problem or burner side problem

↓

③ Identify Sequence and Timing — What happens first, second and when it is happening

↓

④ Identity Presence of the Basic Elements — Ask which elements are present or not present

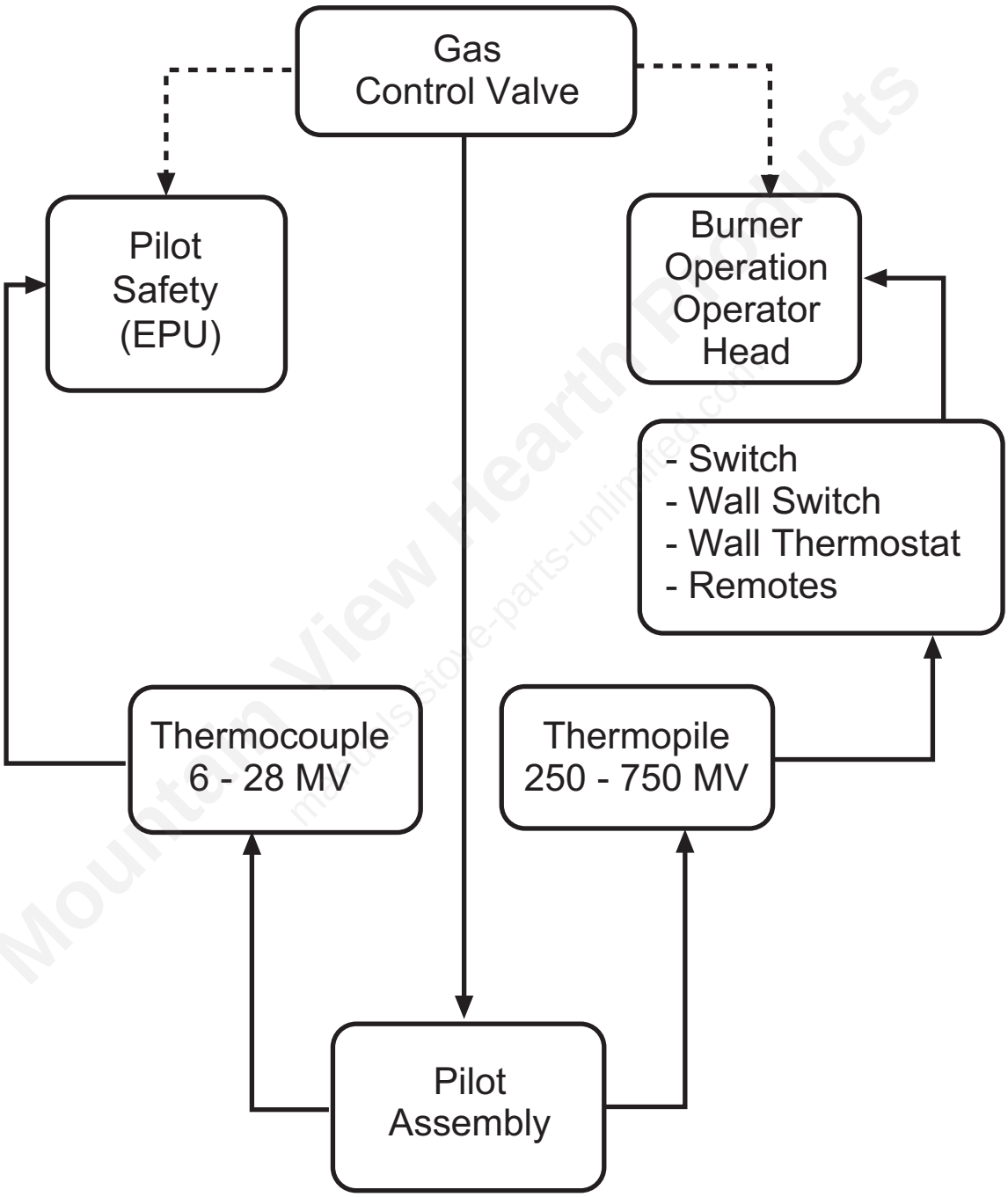
↓

⑤ Diagnose and Verify the problem

↓

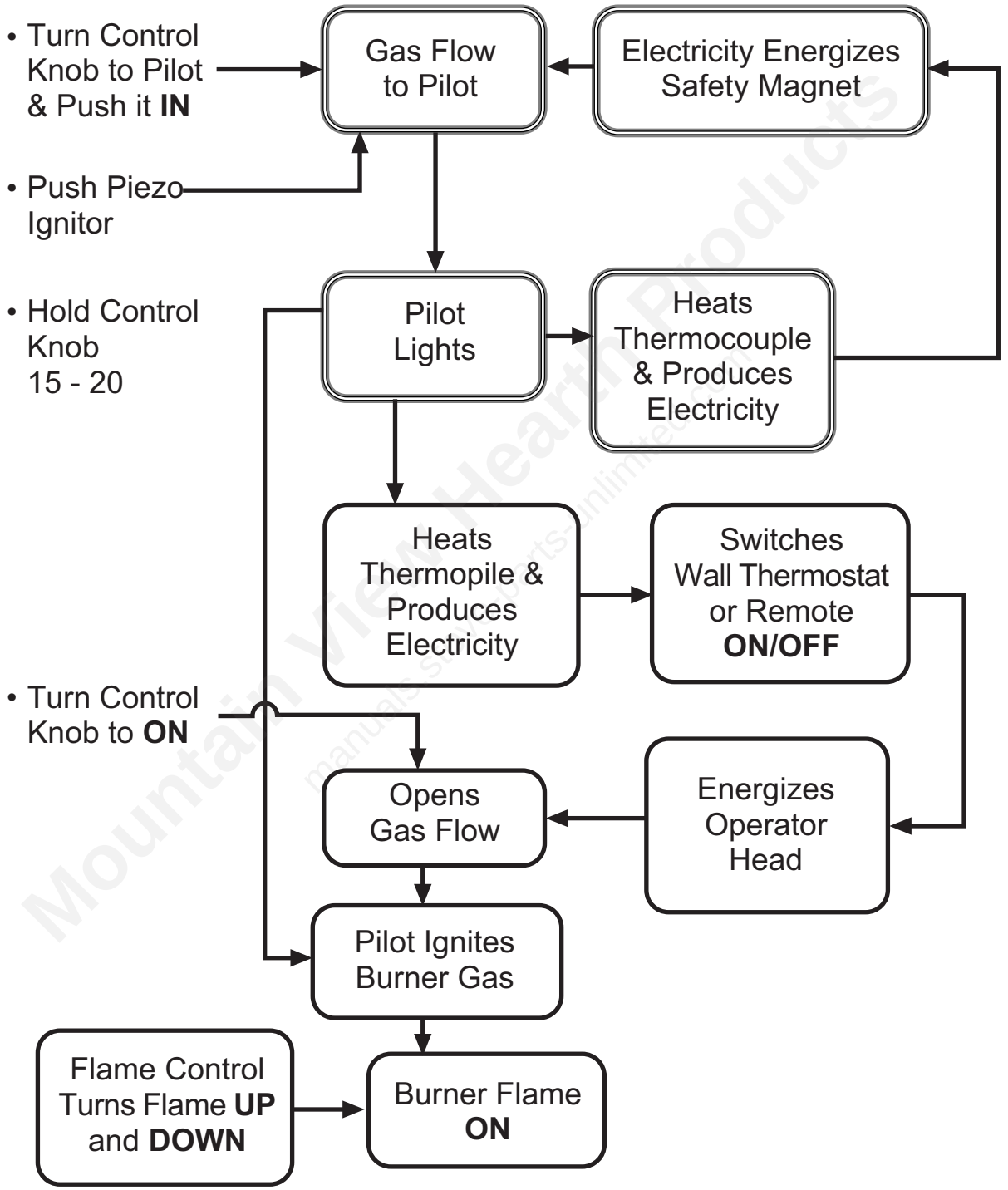
⑥ Fix the Problem

GAS CONTROL DIVIDED INTO TWO SIDES



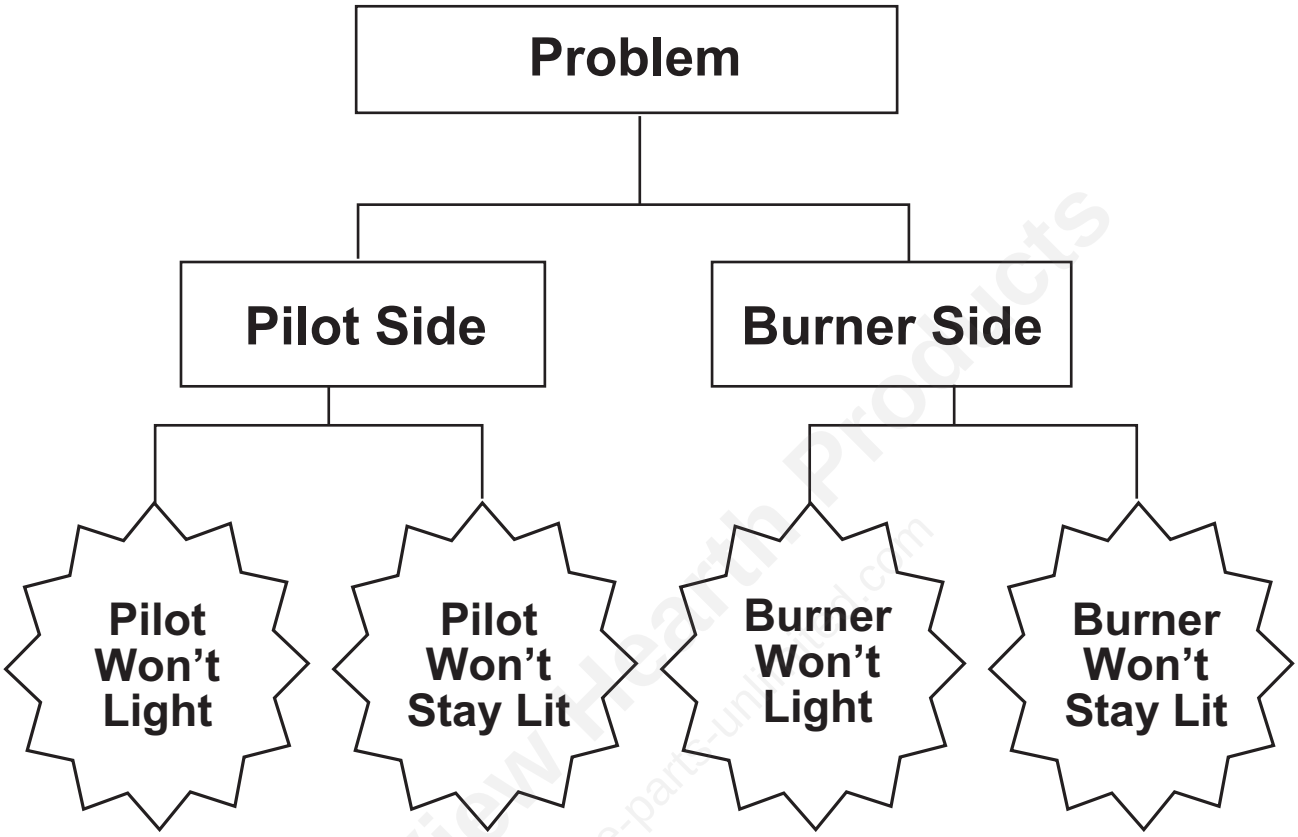
GAS CONTROL OPERATION SEQUENCE

TRAVIS INDUSTRIES
HOUSE OF FIRE



GAS CONTROL OPERATION SEQUENCE

TRAVIS INDUSTRIES
HOUSE OF FIRE



- Gas
- Heat Source

- Thermocouple
- EPU-Gas Valve
- Venting Air Flow

- Thermopile
- Operator Head
- Switch, Thermostat & Remote Control
- Gas Flow

- Thermopile
- Operator Head
- Switch, Thermostat & Remote Control
- Venting Air Flow

ANNUAL SERVICE

TRAVIS INDUSTRIES
HOUSE OF FIRE

Services As A Profit Center

- Levels are named to project prestige and value
- Levels are progressively priced higher
- Biggest price jump is between Basic Program and Upgraded Service Program

Including - Service Response Time, Parts Discounts, Labor Rate Guarantees, Warranties on Service Work Performed, Accessory Purchase Discounts and many others

The Levels are names to create prestige and value

EXAMPLES

Ruby, Emerald, Diamond

Silver, Gold, Platinum

One Star, Two Star, Three Star

They are priced so most customers will pick the middle program and then say “For just this much more I can get the best? Lets do it!”

Basic Program		**Upgraded Program**		**Ultimate Program**
x $	Biggest Price Jump	**xx $**	Smaller Price Jump	**xxx $**
Bare Minimum		**Better Value**		**Best Value**

ANNUAL SERVICE

TRAVIS INDUSTRIES
HOUSE OF FIRE

- Some dealers are including one year of their top service plan with the sale of the appliance.

  No charge service for one year plus an annual tune-up is a real incentive to buy from you.

  The dealers are including in the appliance price this first years service.

  Most dealers can not charge for the first years service anyway as the customer holds their large purchase price over your head and we give in and do charity service.

  This approach defines in terms of time how long you will provide free service. At the end of the free service you have the opportunity to sell a service plan. Most people do not like to step backwards, so will purchase the ultimate service plan they have enjoyed for the first year.

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- In the Owner's Manual, Travis Industries recommends annual inspection and service by a professional.

- The checks that should be done keep the appliance operating at optimum efficiency and help eliminate unexpected breakdowns.

- The checklist (following page) is a guide to be used in conducting the annual service procedure.

- Just like a medical doctor, we too should keep track of "vital signs." By tracking key readings we can see trends and change over time which will help evaluate the health of the appliance.

- Annual service generates a profitable steady income for the Service Department.

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Items To Be Done On An Annual Gas Appliance Service

	Basic Service Plan	Upgraded Service Plan	Ultimate Service Plan
CLEAN			
Control Compartment	X	X	X
Logs	X	X	X
Firebacks/Liners	X	X	X
Burner	X	X	X
Pilot Orifice	X	X	X
Burner Orifice	X	X	X
Glass	X	X	X
Air Circulation		X	X
Air Circulation Chambers			X
CHECK Safety Clearances that Can Readily Be Seen			
Hearth Requirements	X	X	X
Sidewall Clearances	X	X	X
Back Wall Clearances	X	X	X
Mantel Clearances	X	X	X
CHECK FOR SIGNS OF WEAR			
Glass Gasket	X	X	X
Burner - Warpage, Cracks or Separation	X	X	X
Firebacks/Liners	X	X	X
Glass Retainers	X	X	X
Scratches in Glass	X	X	X
Pressure Relief Ports	X	X	X
Insert Manifold Gaskets	X	X	X

Items To Be Done On An Annual Gas Appliance Service

	Basic Service Plan	Upgraded Service Plan	Ultimate Service Plan
CHECK for Proper Operation			
Cycle Unit On and Off	X	X	X
Pilot Light	X	X	X
Burner	X	X	X
Thermostat Function	X	X	X
Remote Function	X	X	X
Air Slide Operation	X	X	X
Blower Snap Switch Function			
CHECK Venting System			
Termination		X	X
Venting Flashing		X	X
TEST			
Incoming Gas Pressure		X	X
Outgoing Gas Pressure		X	X
Thermocouple Voltage	X	X	X
Thermocouple Dropout	X	X	X
Thermopile Voltage	X	X	X
Gas Leaks	X	X	X
B-Vent Spillage Test	X	X	X
Gas Control Voltage Test #2 & #3		X	X
House Carbon Monoxide Test		X	X
House Depressurization Test			X

ANNUAL SERVICE

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Items To Be Done On An Annual Gas Appliance Service

	Basic Service Plan	Upgraded Service Plan	Ultimate Service Plan
Refurbish			
Touch-Up Paint Unit	X	X	X
Repaint Inner Box			X
Re-Emberize			X
Test and Replace Batteries in Smoke Detectors			X

Troubleshooting Venting Problems Check List

Symptoms of venting problems

- Sooty, dirty burning flame
- Blowing erratic flame, either at the pilot, the burner or both
- Lifting, ghosting, disappearing flame – air starvation

Check List	Activity	Blowing	Dirty	Lifting
	Improper restrictor setting	x	x	x
	Exceeding vertical height limitations			x
	Exceeding elbow limitations			x
	Exceeding horizontal limitations			x
	No ?" rise per foot of run			x
	Loose or broken vent connections			x
	Using a 6" vent when 8" should be used			x
	Not using specified termination cap	x		x
	Using a safety tested vent system than what Travis has tested			x
	Not having minimum rise before turning horizontal			x
	Vent cap clearances not followed			x
	Excessive wind conditions – but no wind screen on the horizontal cap	x		x
	Shrubbery that has grown up around the cap			x
	Damaged cap or vent system			x
	Vent run in excessive cold area			x
	Bird nest in the cap			x

SAMPLE FORMAT FOR ANNUAL GAS SERVICE

TRAVIS INDUSTRIES
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Name_____ Phone #_____
Address_____
City _____ State _____ Zip_____
Appliance Brand _____
Appliance Model _____ Last Serviced_____

Check/Test Procedure		Comments Corrections or Recommendations

SAMPLE FORMAT FOR ANNUAL GAS SERVICE

TRAVIS INDUSTRIES
HOUSE OF FIRE

Homeowner Questions About Operations:

Appliance Concerns:

Recommendations:

Date _____ Serviced By _____

Company _____

This Annual Service Was Reviewed With Me

_____

Homeowner Signature

_____

Next Year's Service Appointment:

Month _____ Date _____ Time _____

TRAVIS INDUSTRIES
HOUSE OF FIRE

Gas Appliance "Vital Signs" History

Name _____ Phone #_____

Address _____

City _____ State_____ Zip_____

Appliance Brand _____ Model _____

Check	Readings									
Date										
Thermocouple Voltage										
Drop Out Time										
Thermopile Voltage Test										
Operator Head Voltage Test										
Thermostat Circuit Voltage Test										
Incoming Gas Pressure										
Outgoing Gas Pressure Low										
Outgoing Gas Pressure High										
House Pressure										
House Carbon Monoxide										