SIT Gas Control Valve



SIT Gas Control Valve

Page A - C
Page D
Page E
Darta 1
Page 1
Page 2
Page 3
Page 4 - 5
Page 6
Page 7
Page 8
Page 9
Page 10
Page 11
Page 12









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 <u>+</u>.003

























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

Troubleshooting Flow Chart	Page 1-13
IPI Gas Control Valve Diagram	Page 15
Remote Control	Page 16
Wall Switch	Page 17









- 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.
- 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.







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.

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




















Required & Recommended Diagnostic Tools







Seattle (564 SS)

Log Set Installation

Log Set Overview

When installed, the logs should appear as shown below.





Seattle (564 SS)

Rear Log Installation





Seattle (564 SS)

Right Log Installation



Copyright © 3/17/2008 - Travis Industries Certified Factory Training Program



Seattle (564 SS)

Left Log Installation





Copyright © 3/17/2008 - Travis Industries Certified Factory Training Program



Seattle (564 SS)

Left Twig Installation



Copyright © 3/17/2008 - Travis Industries Certified Factory Training Program





Seattle (564 SS)

Right Twig Installation



Copyright © 3/17/2008 - Travis Industries Certified Factory Training Program



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.



Embering <u>Burners</u>





Standard burn on a Whidbey/1080 without additional embering.





Note: Flame washing along front side of lower front log.





Place ember material in seam along front log.





As flame passes along front edge, note the glow.





Close-up of glow and overall fire/flame quality.



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 <u>temperature difference</u> between the air and/or combustion gases in the venting system and the outdoor air. The greater the temperature difference, the greater the draft.





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



- "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 <u>(Inserts)</u>

Exhaust - Vent Intake - Vent (combustion air)

DVS Insert 3" Intake 3" Exhaust



3" Intake 4" Exhaust

DVL Insert



Measuring Vent Lengths



Two 4' lengths are 7' 10-1/2" long, but when attached to the vent system add 7' 9" to the vent height.



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







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 por
- A maximum of 3 elbows may be used.





Horizontal Termination





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)⁻



GAS VENTING



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 & Thermoelectric Energy

Millivolt Systems Advantages & Disadvantages

Function

Gas Valves

Gas Control Valve Operational Sequence



- 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



- 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).



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

IPI How It Works

IPI Controls

IPI Troubleshooting





Gas Control Valve

IPI Electric Ignition System





IPI Troubleshooting



IPI SYSTEM - Troubleshooting



IPI Troubleshooting

Flame Rectification



IPI SYSTEM - Troubleshooting



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.







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.

Copyright $\ensuremath{\textcircled{O}}$ 3/17/2008 - Travis Industries Certified Factory Training Program

IPI System - Fireplaces



Revolution-Fireplace Xtrordinair



IPI System - Fireplaces



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).



IPI System - Fireplaces



Revolution-Fireplace Xtrordinair





Press the "OFF" button on the remote.





Revolution- Fireplace Xtrordinair





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.



Restrictor Purpose

Restrictor Configuration

Air Shutter Configuration

Self-Balancing Flue

Setting Restrictors

Adjusting Air Shutters



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.



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.



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



<u>21 DV FP</u>



Copyright © 3/17/2008 - Travis Industries Certified Factory Training Program



Restrictors Configuration

New DVS Insert





Restrictors Configuration

864TRV & HH

0 Firebox Roof Back Wall of Firebox Loosen these screws on 0 the exhaust restrictor. Res Slide the restrictor to the correct restrictor position (see the illustration below). In 0 this example, the restrictor is set in (closed) #5 position # 4. #4 #3 #2 (open - stock position) #1 Back of Firebox \checkmark





Restrictors Configuration

864TRV





Tighten these two screws.





Restrictors Configuration

864TRV & HH





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.





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.



Air Shutters

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





Air Shutter Configurations





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 overdrafting.
- 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.



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





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



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 - <u>NOT the consumer!</u>

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



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).



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



3 Follow the directions below to replace the orifice.







- TRAVIS INDUSTRIES HOUSE OF FIRE
- 7 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leaktest 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).

ST

To adjust the pilot flame, turn this screw (NOTE: if totally unscrewed gas will come out of this port). Clockwise The pilot flame must contact the thermocouple and thermopile (see the illustration below). Adjust the pilot up or

down as necessary.







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).





3 Follow the directions below to replace the orifice.





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





7 Make the gas line connection, bleed the gas line (if applicable), start the heater and thoroughly leaktest 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.





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).





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.



5 Follow the directions below to replace the orifice.





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



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).



The burner tray is held in place with 9 screws (7 on the firebox wall, 2 on the pilot assembly). Remove the burner tray and place it on the firebox floor.

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).



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.



- 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.



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.





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	- Personal Thermostat	
Fireplace	- ON/OFF Function	
Thermostat	- 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 <u>Best</u> for total room comfort control Millivolt set back thermostats may be used 	More difficult to install
Remote Thermostat	 Finger tip OWOFF control Personal thermostat 	 Some consumers will <u>NEVER</u> 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
		hand-held sender
Remote Fireplace Thermostat	 Fingertip ON/OFFcontrol Personal thermostat Works without electricity 	 Some consumers will <u>NEVER</u> 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





Remote Controls

 Burner on/off TO SET TO MANUAL: Use the arrow keys to adjust the target temperature to 90. **Remote option** (insert and TO TURN ON AND OFF: OFF Use this key to toggle the freestanding units) heater on and off. The display will indicate the status. Remote on/off 011 Remote thermostat NOTE: If the room exceeds 90, Timed off remote the heater will shut off. **Requires 3 AAA** batteries 110 Volt Transmitter Slide the **RX-04** access cover off. **BBB**B Slide the 0 0 access cover off. ON DI DIP ON L Receiver Dip Switches Transmitter **Dip Switches** Note how the factory setting has all dip switches to "OFF". 0
SWITCHING DEVICES



Remote Controls Place the receiver into the holder (a) with the wires exiting the rear. Remote Control Place the holder against the rear panel. (b) Route the power cord to a 110 VAC outlet. Freestanding Stoves with the on/off switch in back: (c) Stove Route the thermostat wires through the rear panel Installation Trim Remote Control Receiver Top Panel Fireplace **Insert Stove** Holder Installation Double-back tape

SWITCHING DEVICES



Fireplace Remote Controls

- Receiver Transmitter 0 0 Slide the 800088 cover off. 9886 Ö 0 Ĕ۵ 3.4 Transmitter Receiver Dip **Dip Switches** Switches Note how the factory setting has 0 all dip switches to "OFF". TO SET TO MANUAL: Use the arrow keys to adjust the target temperature to 90. 90, TO TURN ON AND OFF: Use this key to toggle the heater on and off. The display will indicate the ROOM TEMP OFF status. 0 8 0 NOTE: If the room exceeds 90, the heater will shut off.
- 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**

SWITCHING DEVICES



Fireplace Remote Controls





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



Receiver Installation









Omega Gas Remote Control Receiver Installation - Sturbridge





Omega Gas Remote Control Receiver Installation: Berkshire & Tree of Life





Omega Gas Remote Control Receiver Installation: Salish & Heritage







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







Omega Remote- Accent Light Receiver Connection

864 TRV & 864 HH

864 TRV or 864 HH

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



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.





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 $+2^{\circ}/-2^{\circ}$.
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.



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.



<u>NOTE</u>: when the word "THERMO" appears here, the remote is in thermostat mode.



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.





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.





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.





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.





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 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 override 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.





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 <u>"MAGIC".</u> 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













GAS CONTROL OPERATION SEQUENCE





GAS CONTROL OPERATION SEQUENCE






<u>Services As A Profit</u> <u>Center</u>

- 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!"



ANNUAL SERVICE



• 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 tuneup 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.

ANNUAL SERVICE



- 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.

ANNUAL SERVICE



Items To Be Done On An Annual Gas Appliance Service

	Basic	Upgraded	Ultimate
	Service	Service	Service
	Plan	Plan	Plan
CLEAN			
Control Compartment	X	X	X
Logs	X	X	<u>X</u>
Firebacks/Liners	X	X	X
Burner	X	X	<u>X</u>
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

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



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

SAMPLE FORMAT FOR ANNUAL GAS SERVICE



Name	Phone #				
City	State Zip				
Appliance Brand					
Appliance Model	Last Serviced				
Check/Test Procedure	Comments Corrections or Recommendations				

SAMPLE FORMAT FOR ANNUAL GAS SERVICE



Homeowner Questions About Operations:

Appliance Concerns:

Recommendations:

Date	Serviced By
Company	
This Annual Service Was	Reviewed With Me
Homeowner Signature	
Next Year's Service App	pointment:
Month Date	Time



Gas Appliance "Vital Signs" History

••											
Name					_ Pho	one #					
Address											
City							Sta	at <u>e</u>	_ Zij	0	
Appliance Brand				Model							
	/	,	,	/	,		. /		. ,	. ,	,
0	ello di										
Check	Read	dings				-			-		
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

Carbon Monoxide

House Pressure

House