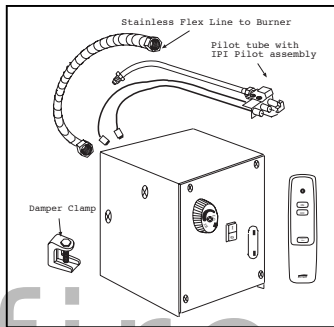


Electronic Safety Pilot System for Vented Gas Logs

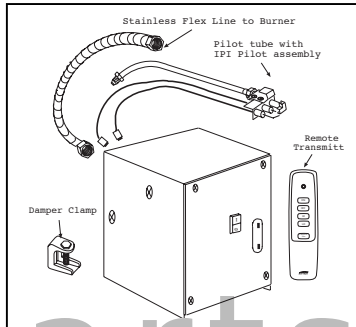
**Models:**  
**AFVK-SP**  
**AFVK-SP-H/L**  
**AFVK-SP-MH/L**

**IF YOU CANNOT READ OR UNDERSTAND THESE INSTALLATION INSTRUCTIONS DO NOT ATTEMPT TO INSTALL OR OPERATE**

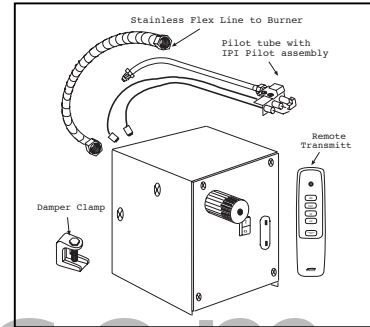
## INSTALLATION AND OPERATING INSTRUCTION



**AFVK-SP**  
Manual Hi/Lo



**AFVK-SP-H/L**  
Remote Hi/Lo Solenoid



**AFVK-SP-MH/L**  
Remote Variable Hi/Lo Motor Drive

These intermittent pilot ignition (IPI) gas valve kits that are set up for Natural gas only and designed to be used with 18 to 30-inch gas log sets. Optional LP conversions kits LPK-18 or LPK-24 are available.

**Notice:** Please leave these instructions for the consumer. Retain for future reference

**Warning:** Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for assistance or for additional information consult a qualified installer, service agency or gas supplier.

**Important:** Read these instructions carefully before starting installation of your log set.

**FOR YOUR SAFETY**  
**WHAT TO DO IF YOU SMELL GAS**

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

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

**Be sure Flue Damper and Glass Doors are fully open when operating any vented gas log set.**

**Young children should be carefully supervised when they are in same room as the appliance.**

## Installation Precautions:

These instructions must be used as a supplement to the instructions supplied with the gas log set. Follow the gas log instructions supplied by the manufacturer on the placement of the burner pan, log basket grate, burner media (sand or vermiculite), ember material and the log placement. Please follow these instructions on the connection of the inlet line to the gas valve and to the burner pan assembly. If this fireplace installation has glass doors, **only operate the fireplace with glass doors in the fully open position.**

This electronic safety pilot system contains a valve, pilot assembly, and connector that are certified by CSA.

## Installation Instructions:

### INSTALLATION: Valve Kit with Pre-Installed Log Set:

1. Make sure gas is completely turned OFF to the gas log set. Make sure you have a certified and approved shut-off within 6-feet of the fireplace, or per the local code requirements.
2. Remove all logs and basket grate and set aside.
3. Disconnect the 3/8" Flared fitting on the existing manual valve from the inlet gas supply.
4. Remove existing manual valve and fittings on the burner pan.
5. Locate a position on the back of the burner pan about 4-inches from the right or left side of the burner pan. **Note: (Figure 1 & 2)**
6. Mount pilot assembly to burner pan as shown in **(Figure 3)**. Note: This pilot bracket clips on the burner pan and holds the pilot at a 45-degree position onto the pan, an attachment screw is recommended. Bend pilot tubing from pilot assembly until the bottom of the pilot bracket is resting against the pan. This will hold the pilot at the 45° position. **(Use caution when bending pilot tubing not to kink the tubing and when locating the igniter and flame sensor wires not to locate the wires and the tubing in or over the burner pan.)**
7. Locate the valve kit in the right or left front corner of the firebox as far forward as possible **(See Figure 4)**
8. Bend inlet gas supply line and connect the 3/8" flare fitting to 3/8" inlet connector on the gas valve. **(Use caution not to kink the aluminum inlet line when bending to fit to the valve).**
9. Bend 12" stainless flex line and connect to valve outlet then connect other end to 3/8" flare fitting on burner pan, **(Caution do not let gas inlet line to the valve kit or gas outlet line from the valve kit be placed inside or overtop of the burner pan).**
10. Turn ON gas supply and check all connections for leaks using soapy water solution.
11. Follow valve lighting instructions. After the pilot is operating, check pilot fittings for leaks.
13. Reinstall basket grate and logs.
14. Install Damper clamp (supplied with valve kit) which allows damper to remain slightly open to allow the pilot gases to vent).

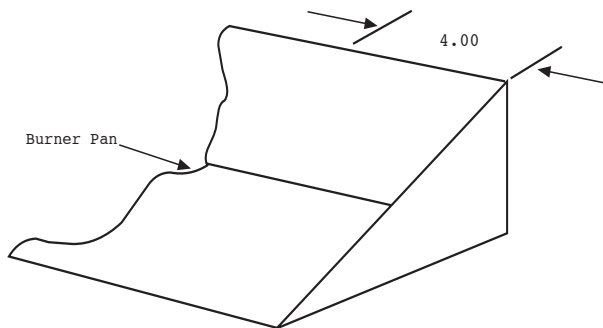
**NOTE: For any PROPANE installations see conversion kit instructions.**

### INSTALLATION: Valve Kit with New Log Set:

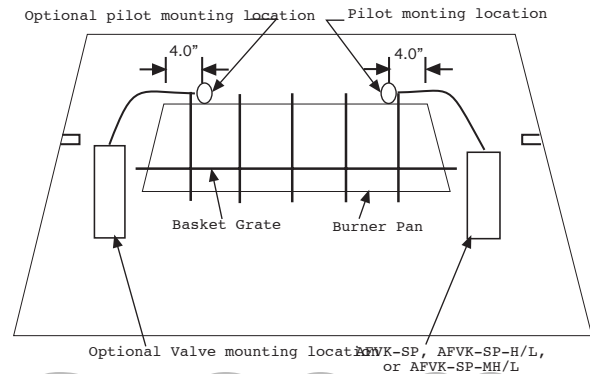
1. Make sure gas is completely turned OFF to the fireplace. Make sure you have a certified and approved shut-off within 6-feet of the fireplace, or per the local code requirements.
2. Follow the instructions supplied with the log set to locate the burner pan. Using the fittings, orifice and gas supply line that came with the log set. Connect the line to the inlet gas supply.
3. Locate a position on the back of the burner pan about 4" from the right or left side of the burner pan. Note: (Figure 1 & 2)
4. Mount pilot assembly to burner pan as shown in **(Figure 3)**. Note: This pilot bracket clips on the burner pan and holds the pilot at a 45-degree position onto the pan, an attachment screw is recommended. Bend pilot tubing from pilot assembly until the bottom of the pilot bracket is resting against the pan. This will hold the pilot at the 45° position. **(Use caution when bending pilot tubing not to kink the tubing and when locating the igniter and flame sensor wires not to locate the wires and the tubing in or over the burner pan.)** Locate the valve kit in the right or left front corner of the firebox as far forward as possible (See Figure 4)
5. Bend inlet gas supply line and connect the 3/8" flare fitting to 3/8" inlet connector on the valve kit **(Use caution not to kink the aluminum inlet line when bending to fit to the valve).**

6. Bend 12" stainless flex line and connect to valve outlet. Connect other end to 3/8" flare fitting on burner pan. **(Caution do not let gas inlet line to the valve kit or gas outlet line from the valve kit be placed inside or overtop of the burner pan).**
7. Turn ON gas supply and check all connections for leaks using soapy water solution.
8. Follow valve lighting instructions. After pilot is operating check pilot fittings for leaks.
9. Follow the instructions supplied with the log set to install ember material, basket grate and logs.
10. Install Damper clamp (supplied with valve kit) which allows damper to remain slightly open to allow the pilot gases to vent).

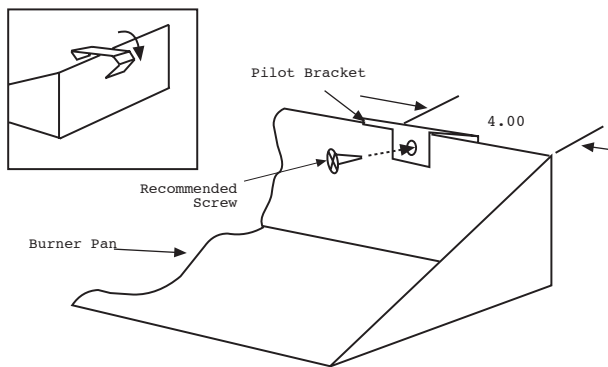
**NOTE: For any PROPANE installations see conversion kit instructions.**



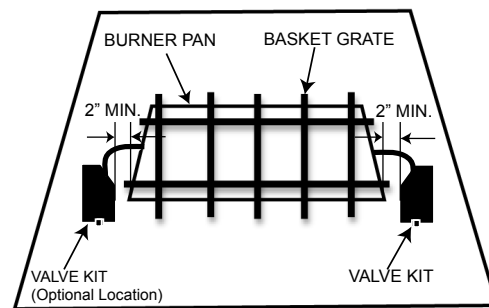
**(Figure #1)**



**(Figure #2)**



**(Figure #3)**



**(Figure #4)**

**Note: (The following section is for reference ONLY) The pilot tubing connection and pilot wiring comes Pre-Assembled to the electronic module (AF-4000MOD) and gas valve.**

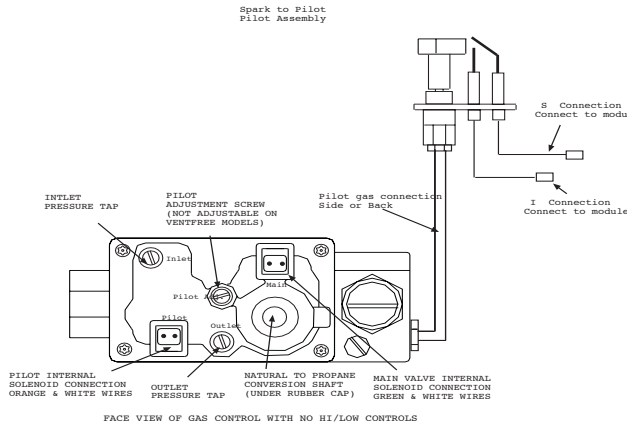
**Spark to Pilot Burner Connections**

These electronic valve kits uses a spark to pilot burner assembly. The pilot gas connections are as follows.

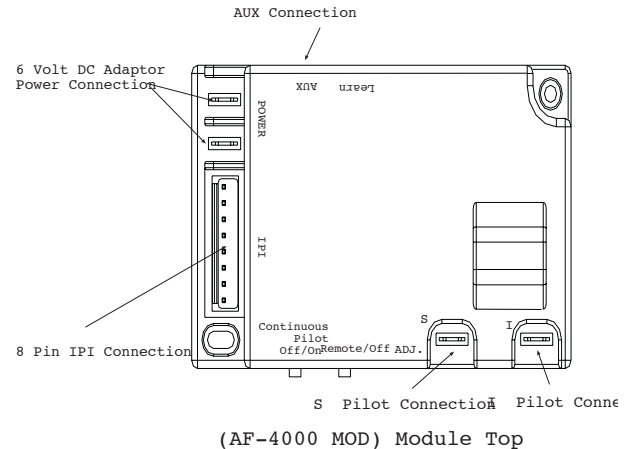
1. Connect the pilot tubing fitting into the pilot outlet connection at the rear of the valve kit and tighten. (Use caution on brass connectors)
2. After installing the pilot tubing connector and gas has been turned ON check all connections for leaks with soap and water solution.

## Wiring The Pilot

1. The “S” & “I” wires from the pilot assembly are pre connected at the factory to the “S” & “I” terminals on the (AF-4000 MOD) module. **Note:** The terminal locations in figures 5 & 6.
2. Route the “S” & “I” wires from the pilot assembly to the (AF-4000 MOD) module in an area that will be away from the pilot or main burner flame.



(Figure #5)



(Figure #6)

## Instructions for installing batteries into the Valve Kit Battery Pack

The battery pack is located at the back of the valve kit inside the metal box. **Note Figures 7 thru 10.**

- A. The valve kits battery pack has a 6-inch 4-pin wire harness connecting the battery pack to the module. **See Figure 11.**
- B. Prior to installation **Note:** The location of the battery pack (Figure 7) is located just inside the metal housing at the back of the valve kit. **Note:** Remove the battery pack during installation.

**Note: All valve kits are battery powered systems and will not operate without the battery pack. The battery pack controls the solenoid or motor drive of the system and provides the power necessary to operate a valve kit.**

### AFVK-SP, AFVK-SP-H/L, & AFVK-SP-MH/L Models

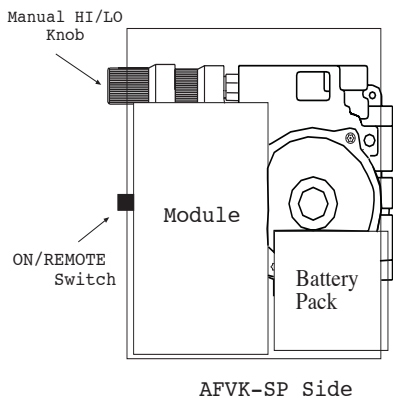
1. Install (4) AA alkaline batteries (Included) in the battery pack as shown in figure 10.
2. The 6-inch 4-pin male connector on the battery pack comes pre-installed to the 4-pin female connector located on the battery pack and module. **Note: Figure 9 & 11 for reference.**
4. The AFVK-SP-H/L & AFVK-SP-MH/L also has (2) 18" wires (Red & Black) that are connected to the Hi/ Lo solenoid. **Note Figure 11.**
5. After the valve kit installation process is completed reinstall the battery pack back into the rear area of the metal box as shown in Figure 7, 8, and 8A.
6. Ensure the excess wire from the 4-pin wire harness and Hi/Lo wire harness are tucked in the metal box to protect them from heat.

### AFVK-SP-H/L & AFVK-SP-MH/L Models Only

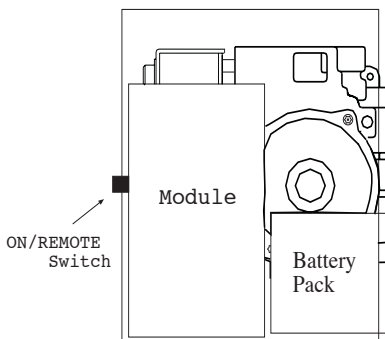
1. Check the connections of the stripped ends of the RED and BLACK wires on solenoid wiring harness to the screw terminals located on the top of the battery pack, note location in Figure 11.
2. Connect the (2) 1/4" female terminals on the solenoid or DC Motor Drive wiring harness to the matching color (RED & BLACK) 1/4" male terminals on the wires from the Hi/Lo solenoid or DC Motor Drive. **Note:** locations in Figure 11.

**Note: On the AFVK-SP-H/L the battery pack switch must be set to LATCHING SOLENOID power to operate the HI/LO solenoid. This switch is located on the face of the battery pack Note Figure 11**

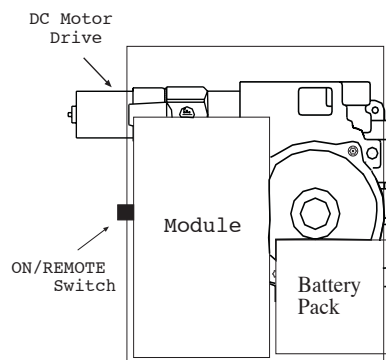
**Note: On the AFVK-SP-MH/L the battery pack switch must be set to DC MOTOR DRIVE power to operate the HI/LO DC Motor Drive. This switch is located on the face of the battery pack Note Figure 11**



AFVK-SP Side



AFVK-SP-HL Side

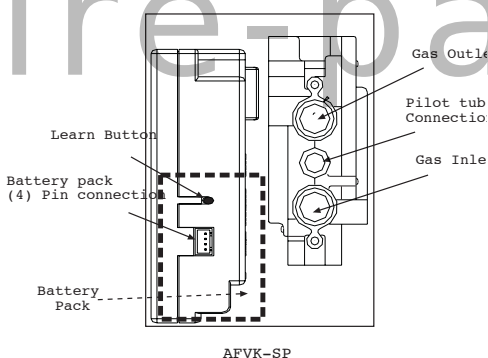


AFVK-SP-MHL Side

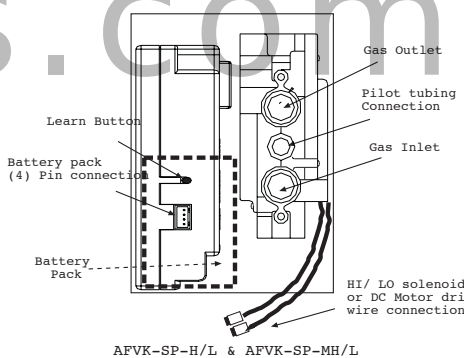
(Figure #7)

(Figure #8)

(Figure #8A)



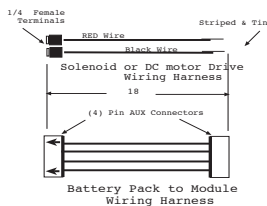
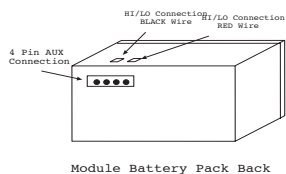
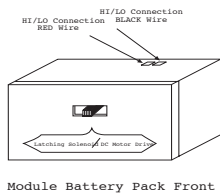
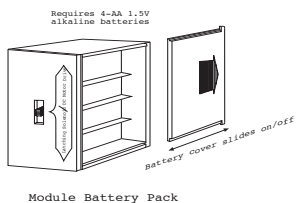
AFVK-SP



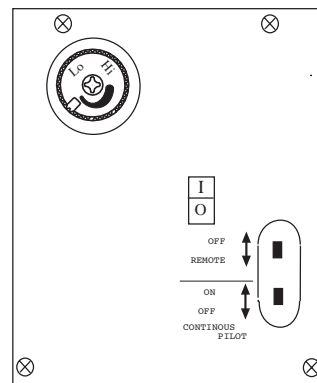
AFVK-SP-H/L & AFVK-SP-MH/L

(Figure #9)

(Figure #10)



(Figure #11)



(Figure #12)

## Converting the AFVK-SP, AFVK-SP-H/L, & AFVK SP-MH/L Natural to Propane

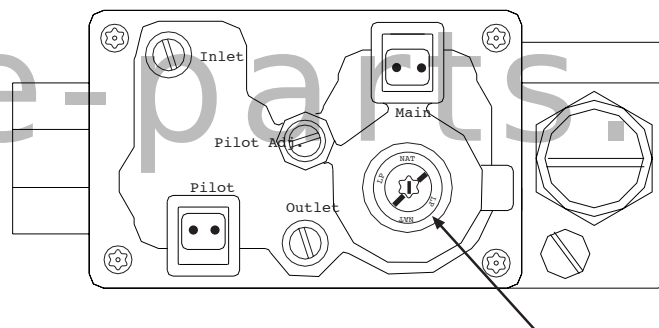
**Note:** When converting a vented log set from NATURAL to PROPANE it will be necessary to use the LPK-18 or LPK-24

The AFVK-SP, AFVK-SP-H/L, or AFVK-SP-MH/L electronic control valves are convertible from Natural gas to Propane gas by a Simple Rotary knob located on the front (Face) of the valve. Note: Figure 12

1. Remove the black metal cover from the valve box to access the face of the control valve.
2. Unscrew the aluminum cap on the front of the gas valve. **Note:** the position of the marker on the shaft of the Simple Rotary knob. This mark will point to NAT or LP that indicates the type of gas the valve is set on.
3. To convert the AF-4000 from the factory setting (NAT) push inward the Simple Rotary knob and rotate 90°. **Note:** the marker will now point to LP and the shaft will stay in.
4. To convert the AF-4000 back to the factory setting (NAT) push in the Simple Rotary knob and rotate 90°. **Note:** the marker will now point to NAT and the shaft will stay out.
5. After the conversion has been made check the outlet pressure with a manometer. The factory setting on the internal regulator is 3.5"WC natural and 10.5"WC propane.
6. Replace the aluminum cap.

**Note:** See the LPK 18 or 24 instructions to convert the burner pan to propane gas this involves installing an orifice air shutter pilot orifice and media.

Use extreme caution when changing this Simple Rotary knob.



NATURAL TO PROPANE  
CONVERSION SHAFT  
(UNDER RUBBER CAP)

FACE VIEW OF GAS CONTROL WITH NO HI/LOW CONTROLS

### Special Features On The Valve Kits Module

All valve kits modules have (2) special features built into the system as follows:

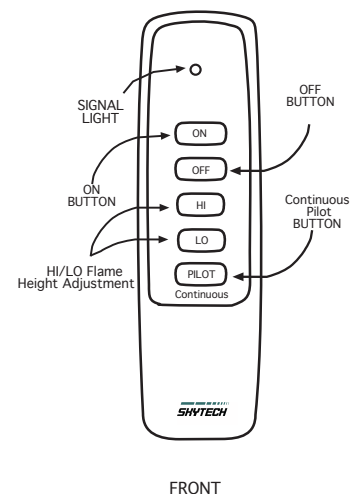
#### 1. CONTINUOUS PILOT FEATURE:

The AFVK-SP, AFVK-SPH/L & AFVK-SPMH/L valve kits have a **continuous pilot feature** that may be activated in cold climate conditions or to maintain a draft in the chimney. The **continuous pilot** can be activated by the following two methods.

#### Off/Continuous Pilot Switch on the Front of the Valve Kit

The Continuous Pilot feature may be activated by placing the "Off/Continuous Pilot" switch located on the front of the valve kit in the "Continuous Pilot" position. See figure 12. When this switch is turned to the Continuous pilot position the pilot will immediately spark to light the pilot and the pilot will remain ON.

#### Continuous Pilot Button on the Hand Held Remote



FRONT

Figure #13

To use the continuous pilot feature from the hand held remote control ensure the "Off/Remote" switch on the front of the valve kit is in the "remote" position. See figure 12. Simply press the button on the hand held remote marked "Continuous Pilot" (See figure 13). The pilot will immediately spark to light the pilot and the pilot will remain ON.

## **2. REMOTE CONTROL FEATURE:**

**Note: The AFVK-SP, AFVK-SP-H/L, or AFVK-SP-MH/L comes with a remote control transmitter.**

The valve kit module has a built in remote control receiver that allows the user to program a hand held remote transmitter to the appliance at any time during or after installation of the appliance.

1. There is a rocker switch located on the front of the valve kit that reads REMOTE/OFF. **Note:** Figure 12
2. When the remote/off switch is in the OFF position the valve kit will operate from the front mounted rocker switch. **Note:** Figure 12 ("O" is Off and "I" is for Ignite)
3. When the remote/off switch is in the REMOTE position the appliance will operate from the Remote Control transmitter. **Note:** The valve kit module must be programmed to the Remote Control transmitter.
4. To program the module (Make sure the batteries have been installed in the battery pack) locate the learn button on the module (See figures 9 & 10). Press and release the learn button there will be a beep sound from the module. Then press any key on the remote transmitter. Once the modules internal receiver accepts the transmitter code, there will be a series of rapid beeps.
5. The remote system is ready for use.

## **MAINTENANCE OF YOUR AFVK-SP SERIES VALVE KIT SYSTEM**

1. Your system should be checked once a year (At the start of the heating season) for proper operation by a qualified service representative.
2. Replace all batteries at the start of the season. Items to check: electronic valve operation, Spark to pilot operation, ON/OFF switch operation, damper operation, visual check of the burner and gas connections for leaks.

## **FOR YOUR SAFETY READ BEFORE LIGHTING**

**WARNING: IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.**

1. This installation should be installed with provisions for combustion and ventilation air, must conform with local codes or in the absence of local codes to the national fuel Gas Code ANSI Z223 latest addition.
2. This product must be on a gas supply line that is less than 1/2 psi. and an individual manual shut-off.
3. **Never** operate this new system with the glass fireplace enclosures (doors) in the **closed position**.
4. Connecting 120-volt electrical power to a valve kit directly will cause damage and will void warranty. An optional AF-4000ADP24 adapter (step-down transformer 120VAC to 7.5VDC) can be installed to eliminate batteries. The battery pack must remain connected to enable the solenoid or motor drive operation however the batteries can be removed.

## **OPERATING PROCEDURE**

**After installation is completed follow these steps to operate the AFVK-SP.**

1. Turn on the main gas supply and check all fittings and connections for leaks with soap and water solution.
2. Move the OFF/REMOTE slide switch on the front to the REMOTE position. **Note:** Figure 12
3. Push the ON button on the remote transmitter this will start the ignition system. The pilot will begin to spark and then light. Once the pilot is lit 2 seconds the main burner will light.
4. Adjust the main flame from HI to LO with the manual HI/LO knob on front of valve kit.

**Note: Move the OFF/REMOTE slide switch on the front to the OFF position then push the rocker switch to the "I" position this will manually start the ignition system. Once the pilot is lit 2 seconds the main burner will light.**

**After the installation is complete follow these steps to operate the AFVK-SP-H/L & AFVK-SP-MH/L**

1. Turn on the main gas supply and check all fittings and connections for leaks with soap and water solution.
2. Move the OFF/REMOTE slide switch on the front to the REMOTE position. **Note:** Figure #12
3. Push the ON button on the remote transmitter position this will start the ignition system. The pilot will begin to spark and then light once the pilot is lit 2 seconds later the main burner will light.

4. Adjust the main flame from HI to LO with the HI/LO buttons on the remote transmitter.

**Note:** Move the OFF/REMOTE slide switch on the front to the OFF position then push the rocker switch to the "I" position this will manually start the ignition system. Once the pilot is lit 2 seconds the main burner will light.

**Note:** On the AFVK-SP-H/L press and release the LO button and the flame will go to LO. Press and release the HI button and the flame will go to HI.

**Note:** On the AFVK-SP-MH/L press and hold the LO button and the flame will modulate to LO. Press and hold the HI button and the flame will modulate to HI.

**Note:** On initial start up: due to air in the gas supply line it may take an extended amount of time for the pilot to light. There is a 60 second lockout built into the module. To reset turn the rocker switch OFF then ON or push the OFF button on the remote transmitter then push the ON button.

## **TROUBLESHOOTING**

**IMPORTANT:** An experienced qualified service technician should only perform troubleshooting procedures.

### **If the pilot will not stay lit:**

1. Confirm that the "S" sensor wire and the "I" igniter wires are properly connected to the module "S" and "I" terminals on the module. **Note:** Figure 6 for terminal locations.
2. Confirm that the Spark to Pilot burner is properly grounded to the gas control valve (Ground is provided through the pilot tubing).
3. Check the ground wire from the module to the gas control valve (Black ground wire on the 8 pin connector)
4. Check the power source battery pack connections and voltage of batteries.
5. Optional check the position of the CONTINUOUS PILOT switch on the valve kit module. **Note:** Figure 12

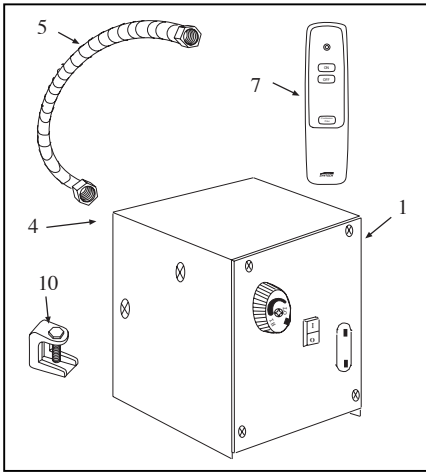
### **If main burner does not come ON when the manual rocker switch or remote control is turned ON:**

1. Confirm that the pilot sparks and lights.
2. Check the (2) pin plastic connectors that plug in the face of the gas control valve **Note:** Figure 5.
3. Confirm that the gas control valve is properly grounded to the valve kit module.

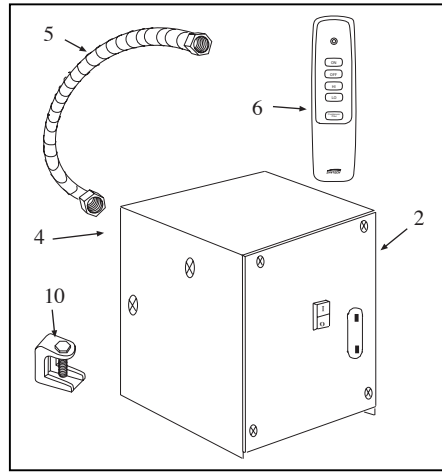
### **If remote won't operate valve kit**

1. Ensure the module switch is in Remote position and check batteries in the remote and the battery pack.
2. **Clear Codes:** Memory in the module might be full if the learn button is pressed too many times. If this happens no audible beep will be heard. To clear memory, place the module slide switch into the REMOTE position. Press the learn button and release after 10 seconds. You should hear three (3) long audible beeps indicating all codes have cleared. You can now "relearn" the transmitter to the module as described below.
3. Press the LEARN button on the module to accept the transmitter security code. Ensure the slide button on the module in the REMOTE position; the module will **not** LEARN if the slide switch is in the OFF position. The LEARN button is located on the side of the module (See figure 10). Using the end of a paperclip or toothpick gently press and release the black LEARN button inside the hole. When you release the LEARN button the module will emit an audible "beep". After the module emits a beep press the transmitter ON button and release. The module will emit several beeps indicating that the transmitter's code has been accepted into the module then you can presume normal operation.

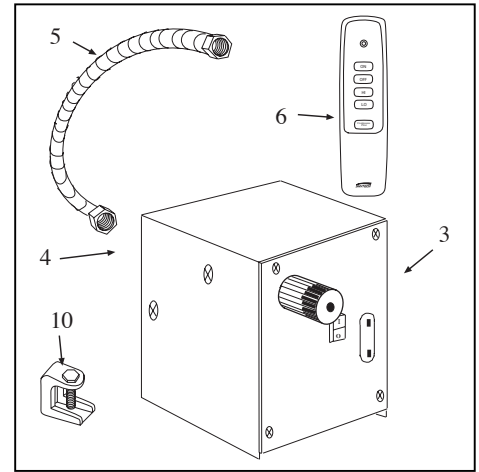




**AFVK-SP**



**AFVK-SP H/L**



**AFVK-SP-MH/L**

## AFVK-SP & AFVK-SP-H/L PARTS LIST

Item Number	Description	Part Number
1	AFVK-SP Valve Assembly	238577-4
2	AFVK-SP-H/L Valve Assembly	238577-5
3	AFVK-SP-MH/L Valve Assembly	238577-16
4	3/8" Flare x 3/8" NPT connector	685-22
5	12" stainless steel connector line	685-11
6	SP1001H/L Transmitter (AFVK-SP-H/L & AFVK-SP-MH/L (Only)	238577-14
7	SP1001 Transmitter (AFVK-SP Only)	238577-15
8	Damper clamp	685-14
9	Complete Pilot assembly (not shown)	238577-13

### Limited Warranty

American Flame warrants the AFVK-SP, AFVK-SP-H/L, or AFVK-SP-MH/L Valve Kit for 12 months from the date of purchase or installation to the original purchaser to be free from defects in materials and workmanship. Damage to the AFVK-SP, AFVK-SP-H/L, or AFVK-SP-MH/L Valve Kit caused by accident, misuse, abuse, or installation error, whether preformed by a contractor, Service Company, or owner, is not covered by this warranty. American Flame will not be responsible for labor charges and/or damage incurred in installation, repair, replacement, or for incidental or consequential damage. Some states, provinces, and nations do not allow exclusion or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply. This warranty gives you specific legal rights. You may also have other rights that vary by state, province, or nation

**American Flame, Inc. 9230 Conservation Way Fort Wayne, IN 46809**  
**Phone (888) 672-8929 Fax (888) 672-8024**

Troubleshooting information is available on line at:  
[www.skytechsystem.com](http://www.skytechsystem.com)