



SIT Proflame II (GTMF) System
Intermittent Pilot Ignition System
System Overview & Troubleshooting Guide

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In order to troubleshoot any product it is important to understand the basic operation and functions of that product. The following information will assist you through this process.

Kozy Heat welcomes your questions while you are at the job site. 800-253-4904

This guide is ONLY intended for professional or trained technicians.

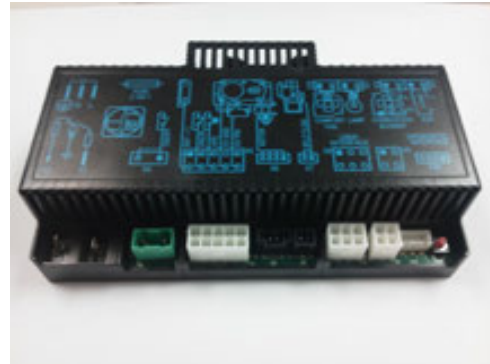


System Overview:

The primary components that are included in the SIT Proflame II GTMFS System



Gas Valve



Integrated Fireplace Control (IFC)



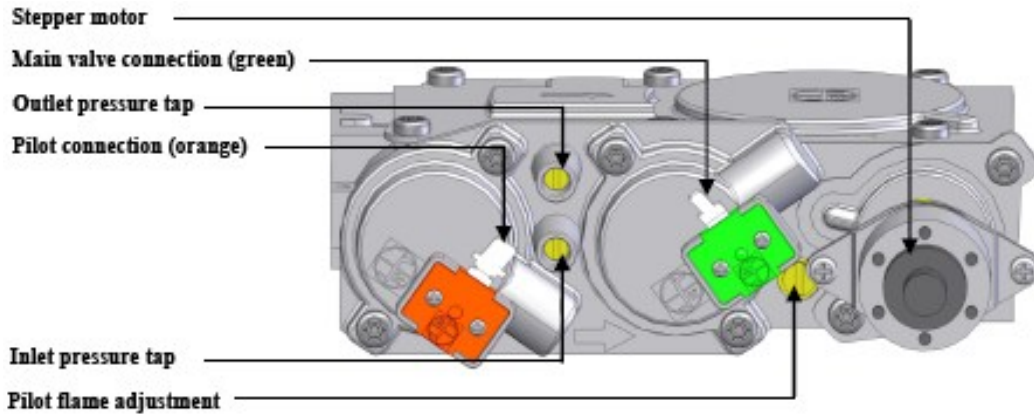
SIT Pilot Assembly



Transmitter (remote control) (GTMF model)



SIT Proflame GTMF Gas Valve



Solenoids on Valve:

EV1 (Pilot Connection Coil):

- Opens and closes to release gas to the pilot
- Orange in color furthest from step motor
- 5VDC and drops to 1.0VDC (test image shown on pg 16)

EV2 (Main Burner Coil):

- Opens and closes to release gas to the burner (needs rectification at pilot before voltage)
- Green in color closest to step motor
- 5VDC and drops to 1.0VDC (test image shown on pg 16)

Gas Pressure: **Very Important for the Function of an IPI Pilot Assembly**

Inlet Pressure Test Point

- Measures amount of gas coming into the valve
- NG 5.0" WC to 7.0" WC
- LP 11.0"WC to 13" WC
- Critical to check this with all gas appliances on in house (Full Load Check)

Outlet Pressure Test Point

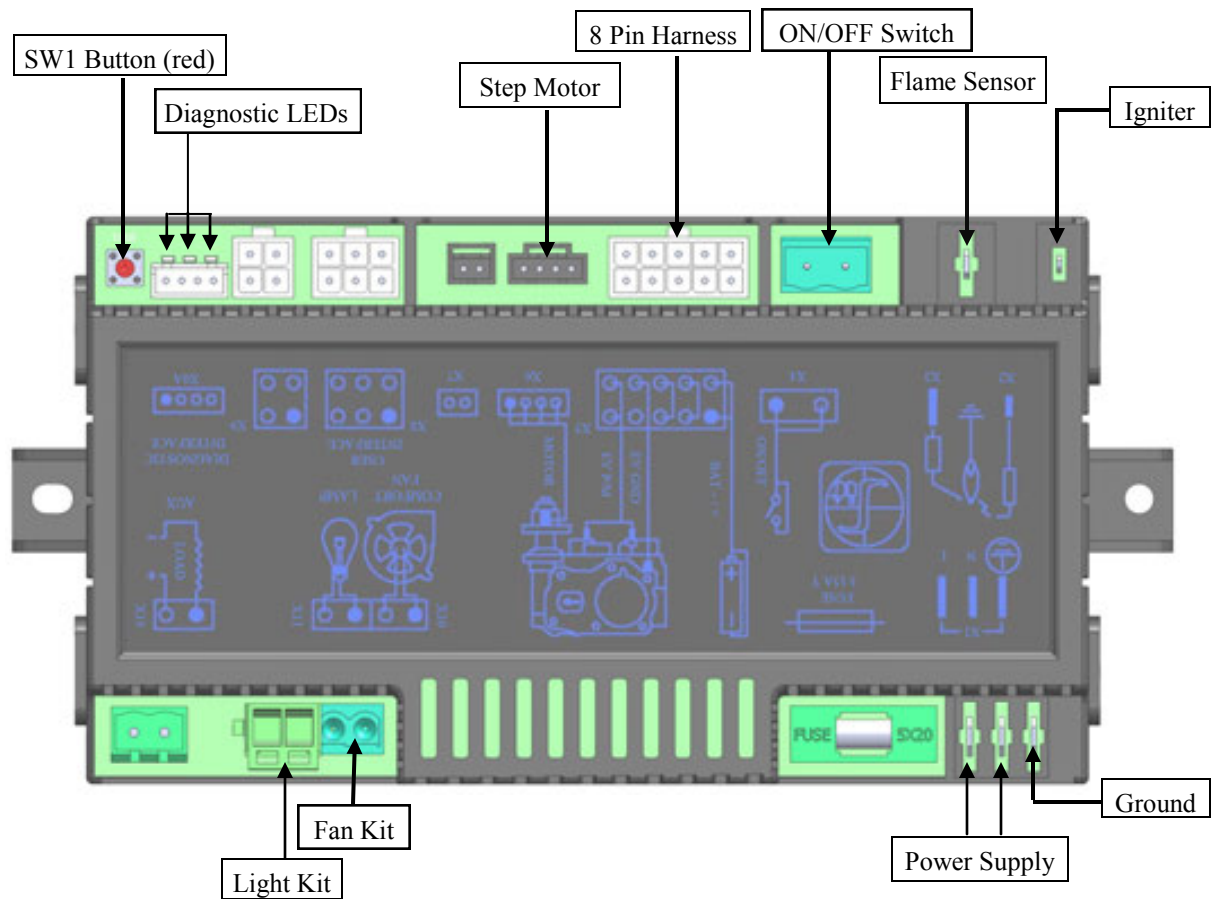
- Measures amount of gas leaving the valve to burner orifices
- Need to have EV2 energized or burner turned on to verify

Pilot Adjustment Screw:

- Do not adjust as this is factory set by the valve manufacturer.



Integrated Fireplace Control (IFC Module)



The IFC module:

- Acts as the “brain” of the IPI system sending commands to specific areas
- Powered by 120VAC with an additional battery back up in case of main power loss.

Testing Power Voltage:

- AC Power (Pins red and black) would be about 6.5VAC (See test images on pg 15)

Diagnostic LEDs:

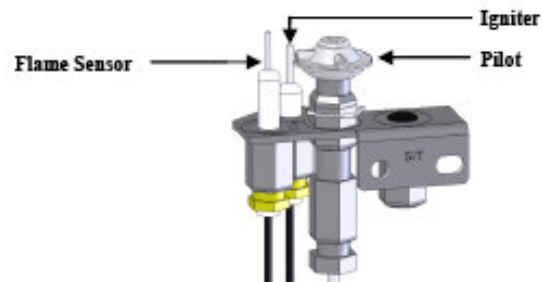
- This area contains LEDs which provides the technician with lockout codes.
- For more information on LED Indicator Light and Lockout codes see page 9.



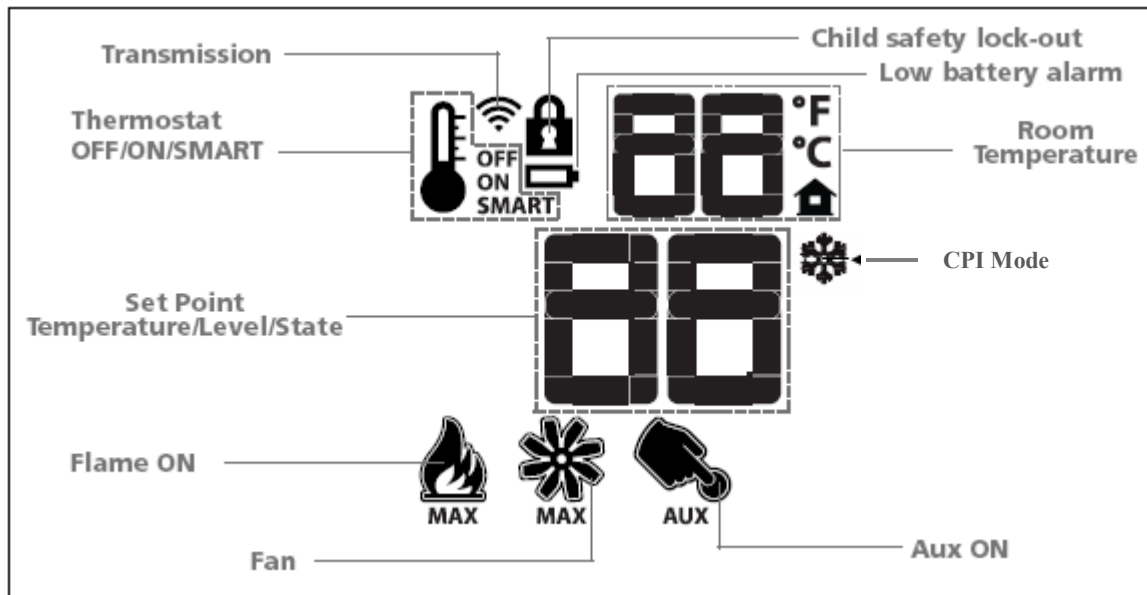
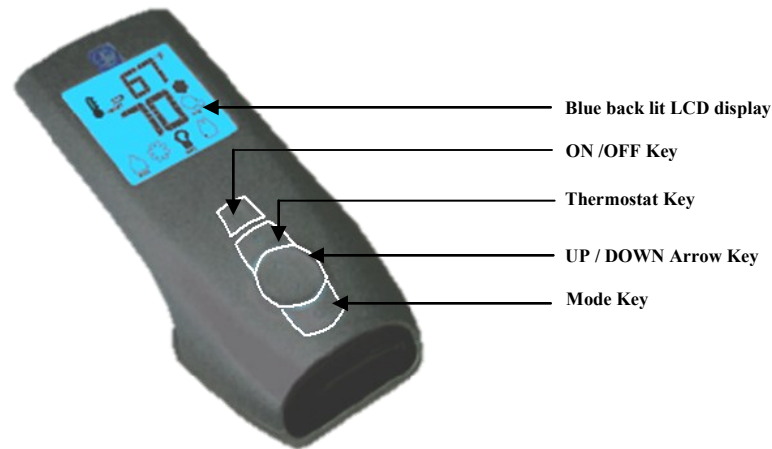
Pilot Assembly

Pilot Assembly is comprised of three parts

- Pilot Hood
 - Splits the flame into two for burner and flame sensor.
- Igniter
 - provides spark to the pilot hood
- Flame Sensor
 - Rectifies the pilot is lit and carries the voltage to the IFC module to stop sparking and allow main burner to open.
 - Without rectification igniter will still spark and burner will not turn on.



Remote Control



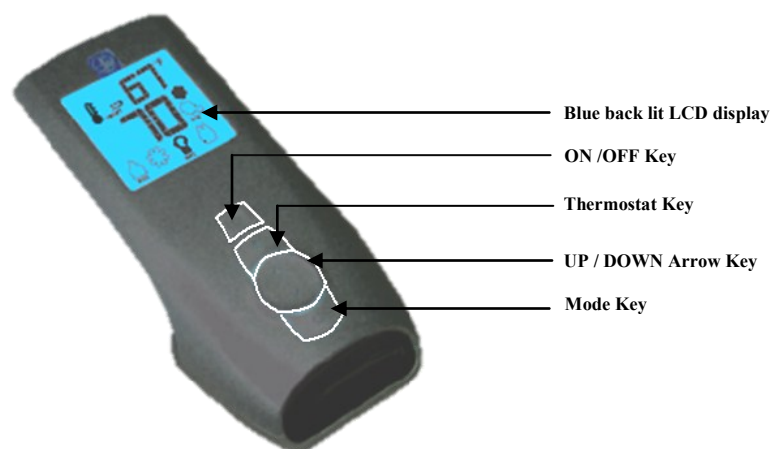
The Proflame transmitter uses radio frequency to communicate information to the receiver box located in the fireplace.

The transmitter is powered by three (3) AAA batteries. As these batteries begin to wear down the blue backlight feature on the remote will deactivate indicating the batteries as beginning to lower. Approximately after this happens the homeowner has about 2 - 3 weeks to change out batteries.

There is also an indicator on the display to indicate low battery in transmitter.



Remote Control Button Function



ON/OFF Key

- Pressing this button one time will turn the fireplace ON in manual mode. Pressing it once more will turn the fireplace off.

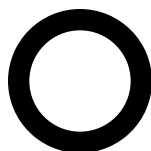
Note: The thermostat image on the left should read OFF for fireplace to run manually.



THERMOSTAT Key

3 Settings

- ON
 - Fireplace will operate in thermostat mode with ability to manually set the flame height.
- OFF
 - Thermostat is off, but will operate manually from remote using ON/OFF key.
- SMART
 - Works just the same as ON thermostat, but the SMART function will modulate the flame height as the fireplace nears the set temperature.



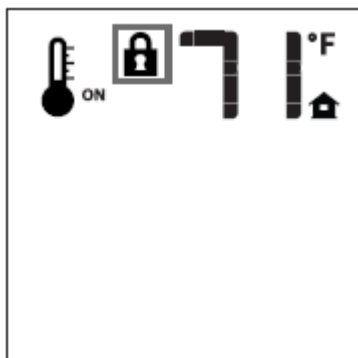
MODE Key

Pressing the MODE key will cycle the display screen from flame modulation, to fan modulation, to light kit on/off.

Use the UP/DOWN Arrow Key to adjust each setting accordingly.



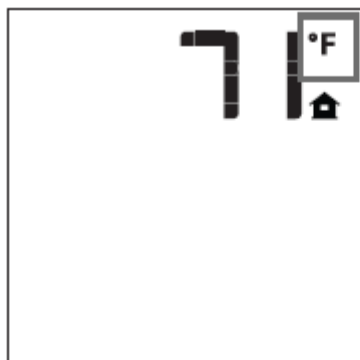
Remote Control Display Icons



Key Lock

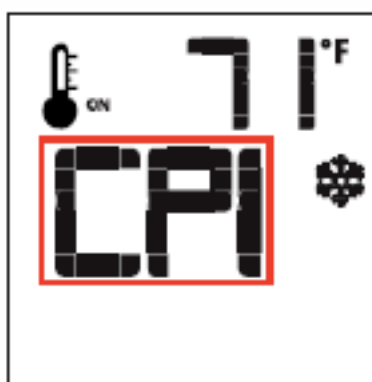
To activate child lock, press the Mode Key and the Up Arrow Key at the same time.

To deactivate press the same button sequence.



Fahrenheit / Celsius Adjustment:

With the system in the OFF position, press the Thermostat Key and the Mode Key at the same time.



Continuous Pilot/Intermittent Pilot CPI/IPI

This system has the option of a continuous (standing) pilot feature. By having the pilot on continuously the firebox remains warm and a draft is established allowing an easy start.

With the system OFF, press Mode to index CPI icon. Using the arrow key select CPI or IPI mode.

A snowflake icon will be visible during setup and will remain visible in CPI mode.



SIT Proflame 2 IFC Module Ignition and Reset Information

Ignition Sequence:

Starting from OFF, press the remote power button. Approximately four seconds after it is pushed the IFC module will send spark to the pilot hood. It will spark for 60 seconds.

If there is no flame ignition (rectification) during the first try for ignition, the IFC module will stop sparking for approximately 35 seconds and then it will begin sparking again. The second attempt will spark for another 60 seconds.

If there is no positive rectification after the second sequence the IFC module will go into a Lock Out and the LED Indicator Light will blink three times in intervals until the system is reset.

In Summary:

- 1) Ignition sequence is 60 seconds spark, 35 second wait, 60 second spark and then lock out if flame is not rectified.
- 2) Lock Out blink on the LED Indicator Light is 3 blinks in sequence

Resetting Proflame IFC Module When In Lock Out:

Reset Using the Transmitter ON/OFF power button:

Turn the system off by pressing the remote power button. After approximately 2 seconds press it again.

Reset Using the Remote Flame Adjustment buttons:

In the manual mode, use the down arrow to lower the flame all the way to OFF. Wait 2 seconds and then use the up arrow to turn the flame back on.

Reset Using Receiver Switch:

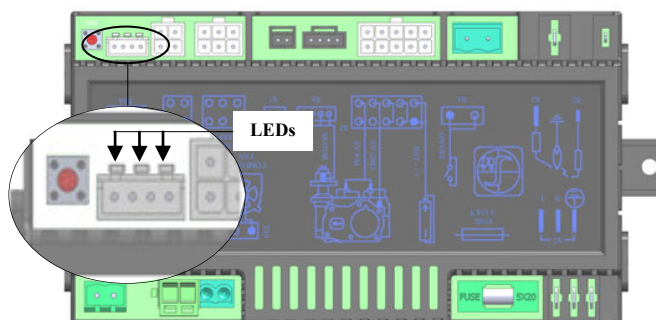
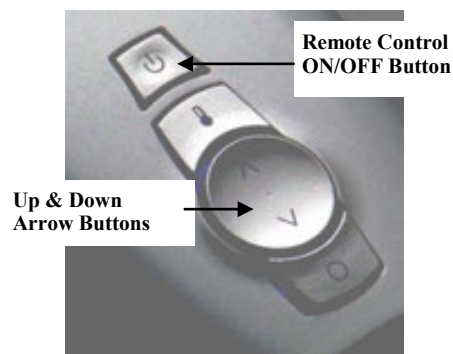
With the remote off, move the ON-REMOTE-OFF switch to the OFF position on the receiver box. Wait approximately 2 seconds and slide back to ON position. (Note: You will need to move to REMOTE if you prefer to turn on via remote).

Low Battery Condition (<4V) Remote Control: Battery Icon will appear on LCD remote control display. Replace batteries.

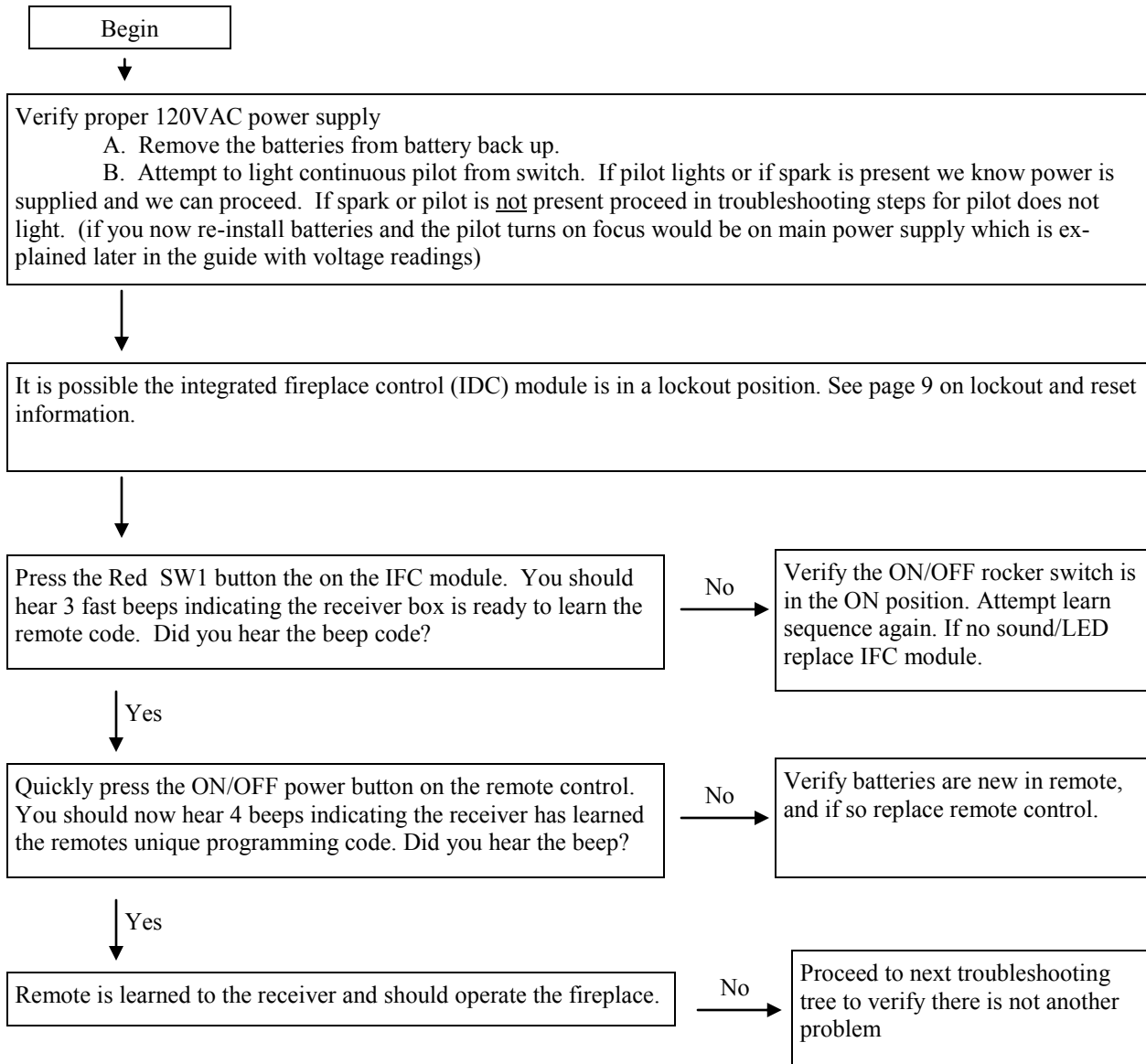
Low Battery Condition (<4V) Battery Backup: Red LED Indicator will blink (1) time in intervals. Low double-beep emitted from IFC control module when it receives an ON/OFF command from the remote control. Replace Batteries.

Pilot Flame Error Condition: Red LED Indicator will blink (2) times in intervals. Contact your dealer if this occurs.

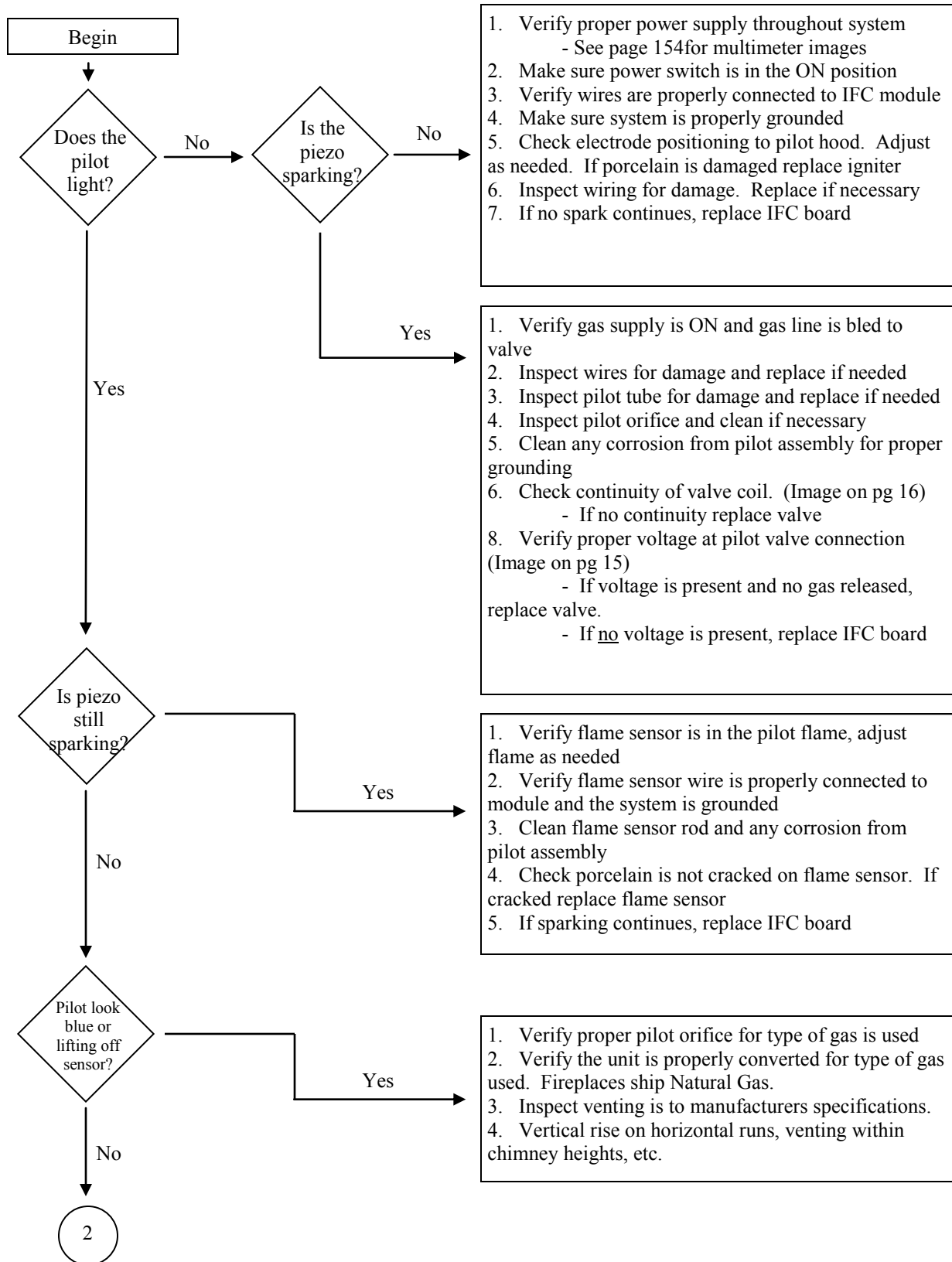
System Lock Out Condition: Red LED Indicator will blink (3) times in intervals. Make sure gas is turned on. Make sure sensor is not shorted. Follow **Reset IFC Control Module When System Goes Into Lock Out** instructions above.



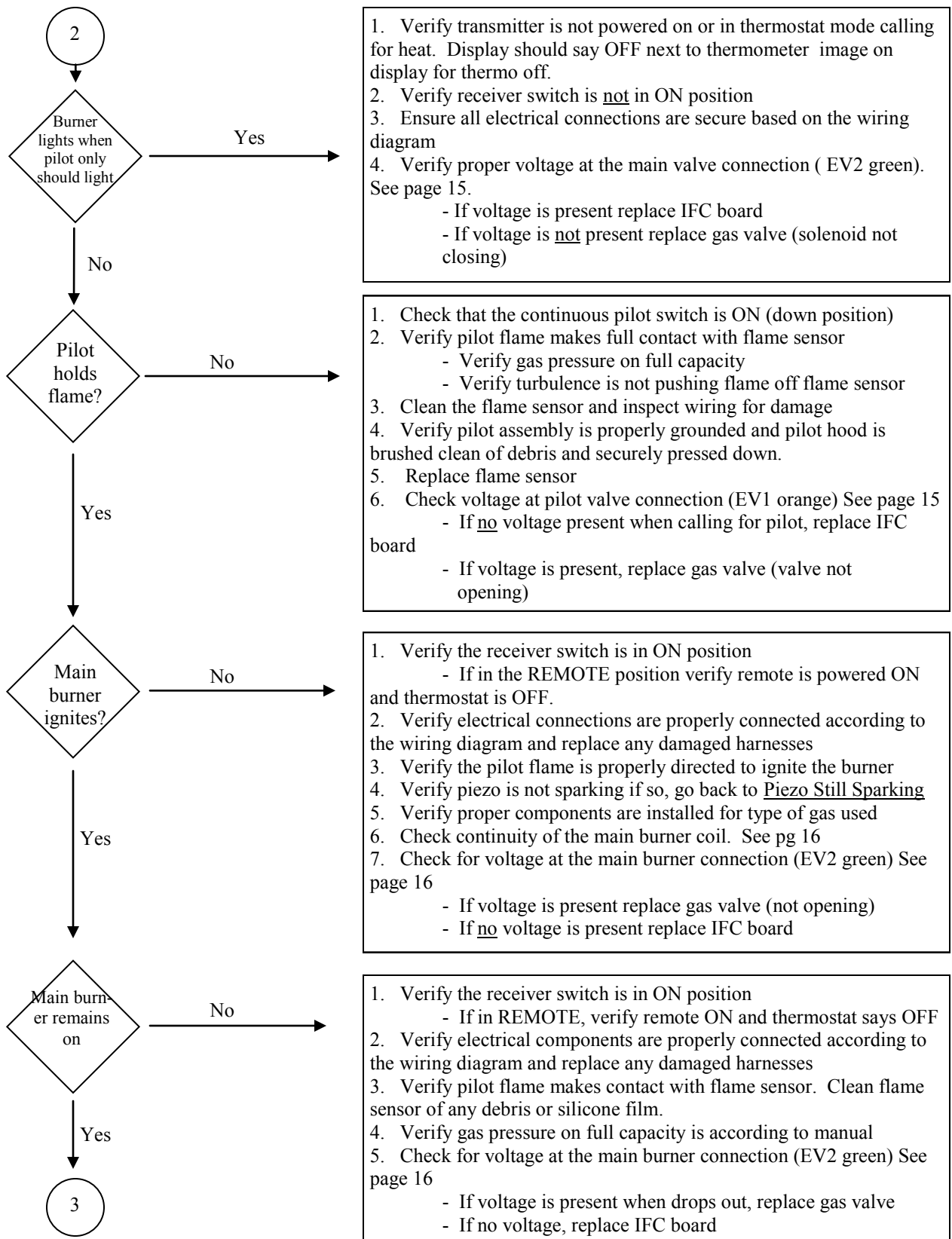
Remote Not Learning to Receiver



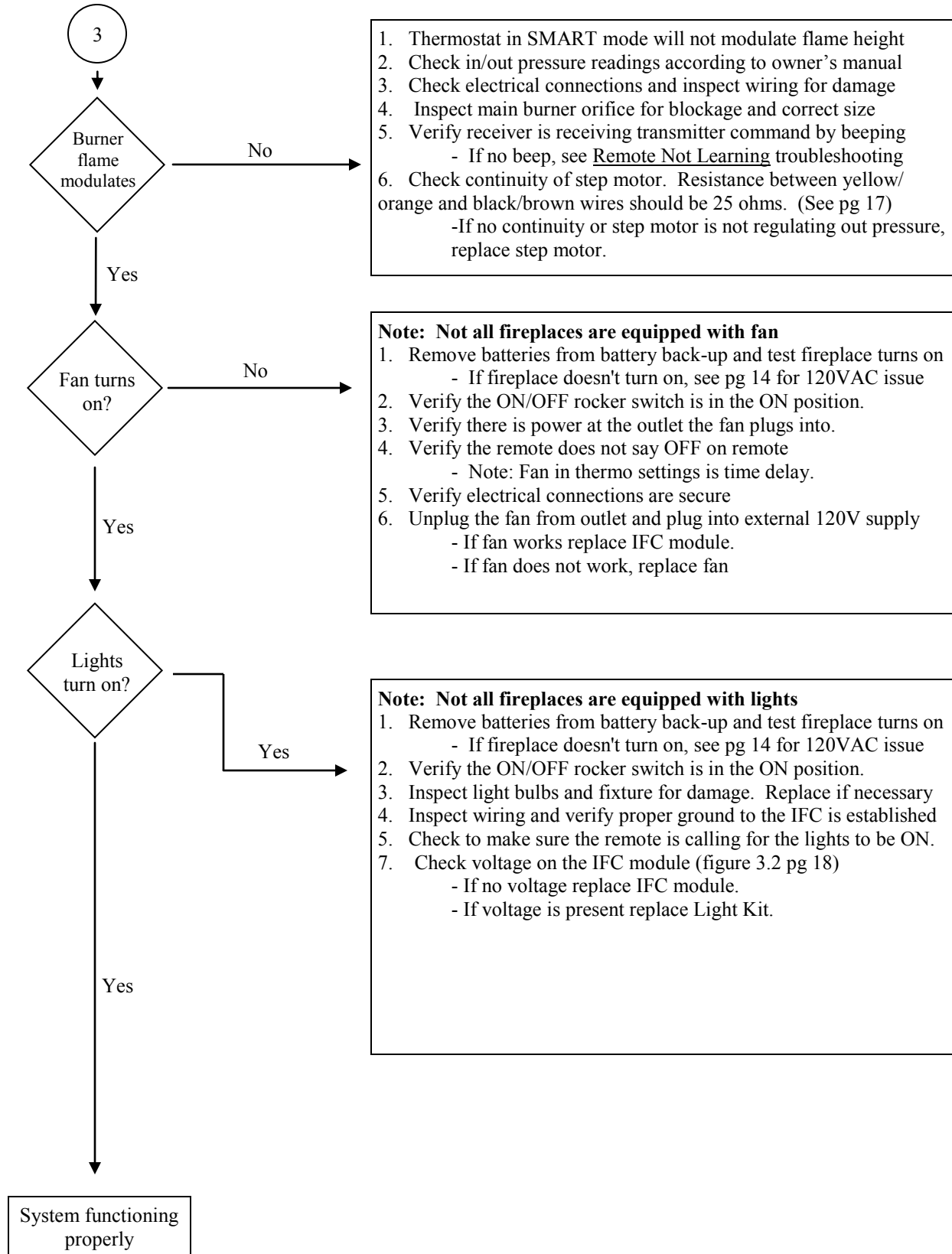
Troubleshooting



Troubleshooting



Troubleshooting



Verifying Power Supply to IFC Module

The following images are a series of tests to determine if 120V is supplied throughout the system.

Figure 1.1 shows the location of the incoming power on the IFC module.

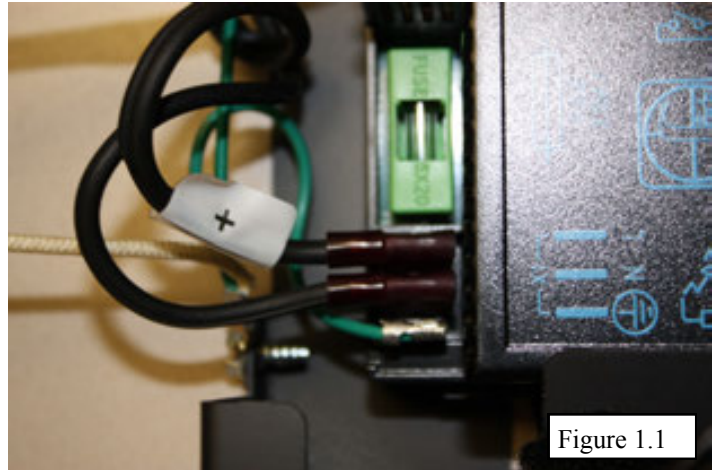


Figure 1.1

Figure 1.2 displays how to test if 120VAC is supplied to the IFC module. Take note that if you are getting 0VAC out of this test, make sure the POWER switch is in the ON position and if so test the outlet the unit is plugged into for power.

Note: This test will be a VAC reading

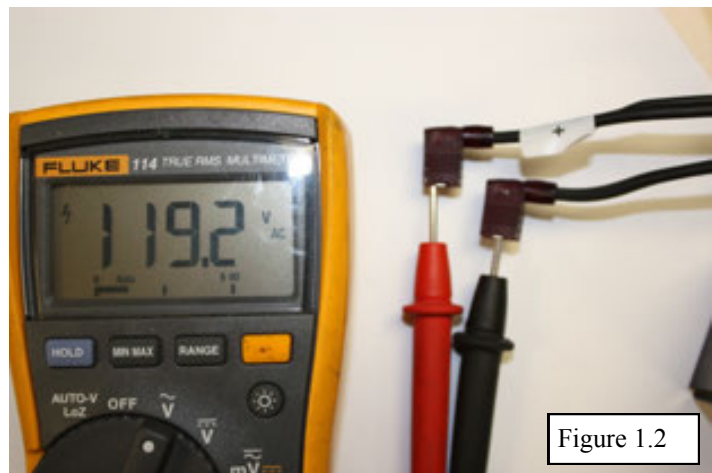


Figure 1.2

Figure 1.3 would be the battery back-up power supply test. It is important to get your multimeter pins on the contacts for an accurate reading. Power supplied should be approximately 6.2VDC.

Note: This test will be a VDC reading

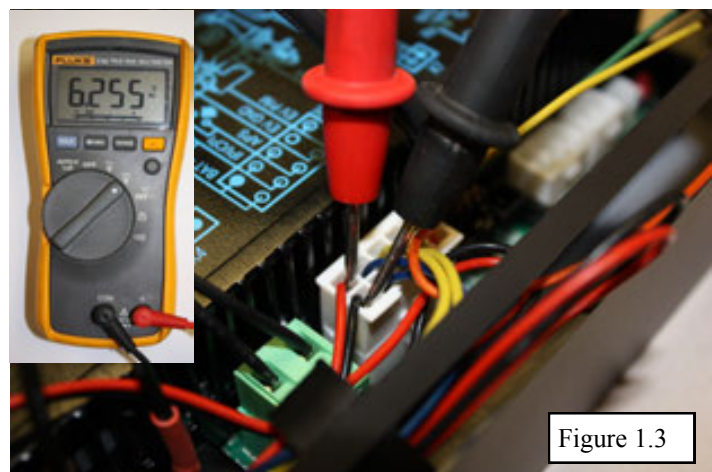


Figure 1.3



Verifying Voltage on Solenoids (EV1 and EV2)

This test performed would be done if we wanted to know if the IFC module is supplying power to the Pilot solenoid (EV1) telling it to open.

Multimeter would be in VDC.

EV1 Solenoid

One multimeter pin would be placed on the ground at the top of the valve where yellow/green wire connect, while the other pin would be placed on the spade connection where the Orange wire connects to the EV1 solenoid.

Initially when you turn on the pilot you will get a reading of about 4.292VDC (Figure 2.1) and drop to about 0.940 (Figure 2.2).

This reading tells us the IFC module is sending power through the harness to open the corresponding solenoid.

If you are getting power and valve is still not supplying gas our focus would be is gas turned on, pilot lined crimped, or bad valve. (see troubleshooting tree for complete steps)

EV2 Solenoid

To test Burner solenoid (EV2) follow the same process, but connect multimeter pins to ground and to the green solenoid and NOT the orange.

Important: To test the Burner Solenoid (EV2) there would need to be a proven/rectified pilot flame.

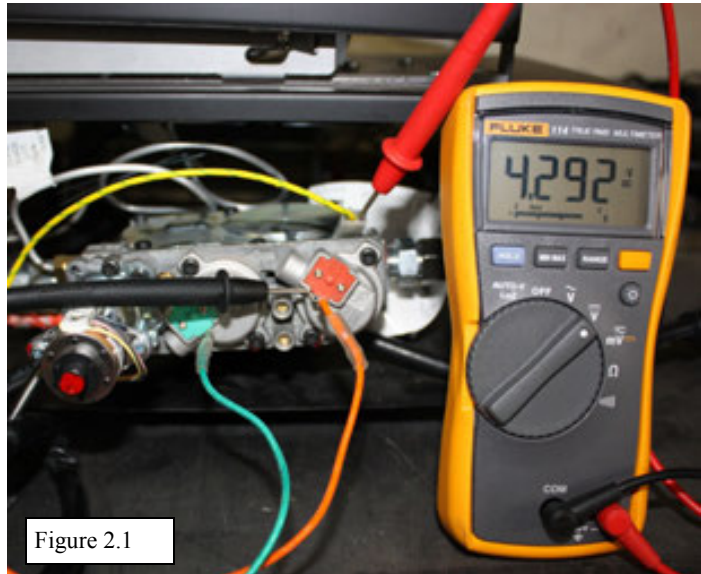


Figure 2.1

Voltage will drop

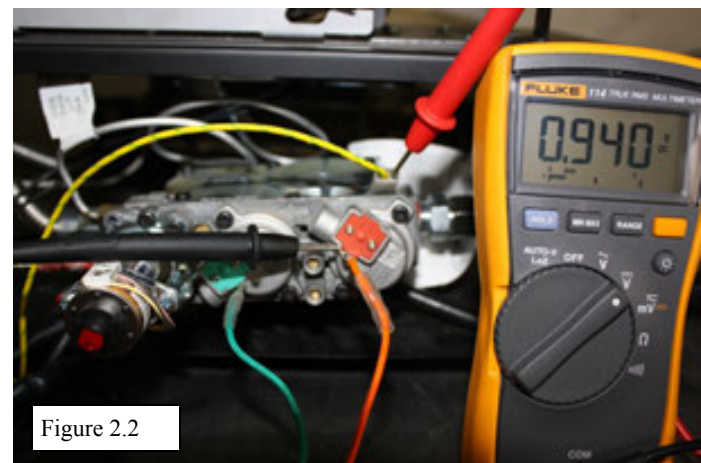


Figure 2.2

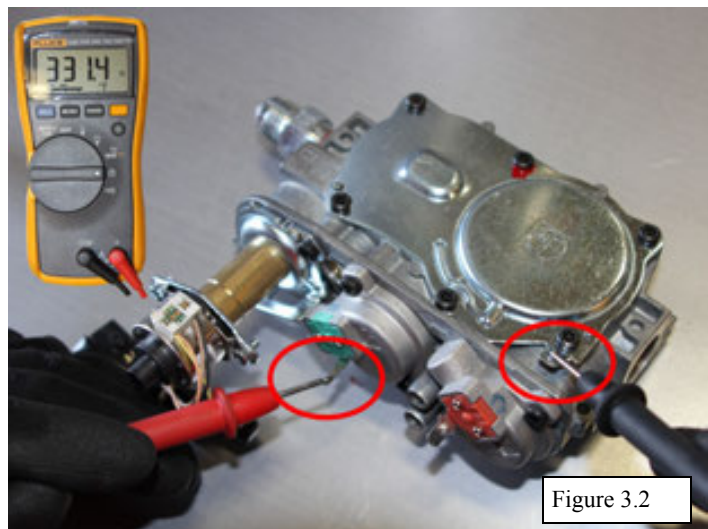
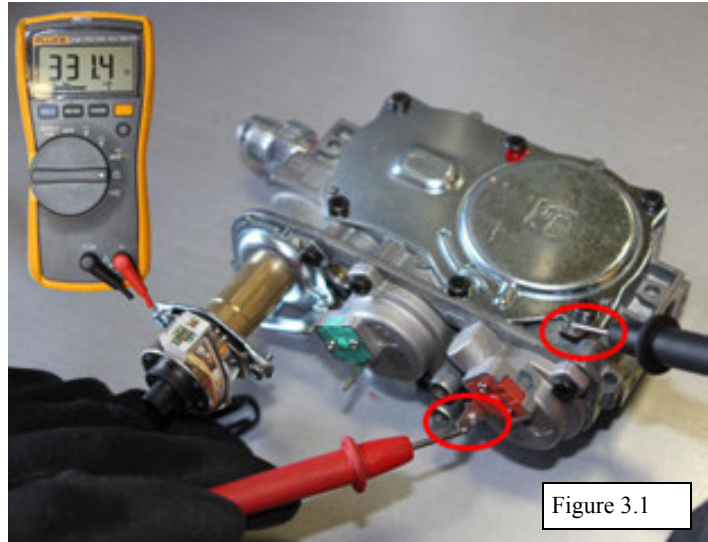


Performing Ohms Reading of Valve Solenoids

This test performed in Figures 3.1 and 3.2 are a continuity test of the valve solenoids. Your multimeter would need to be in the Ohms position and disconnect the wiring harness from EV1 and EV2.

Using one multimeter pin on the solenoid and the other on the ground your reading should be approximately 331.4 ohms.

Same process is conducted for either EV1 or EV2, just need to touch the corresponding spade connector.



Performing Ohms Reading on Step Motor

This test performed in Figure 4.1 is a continuity test of the step motor. Your multimeter would need to be in the Ohms position and disconnect wiring harness from the step motor to expose the leads.

Using a multimeter place the two pins on the two leads of the connector. Your reading should be approximately 25.4 ohms.



Figure 4.1



Performing Voltage Readings on Light and Fan Kits

This test performed in Figures 3.1 and 3.2 are a voltage test of the fan and light terminals on the IFC board. Your multimeter would need to be in the DC voltage position.

Using one multimeter pin on the black lead and the other on the white lead your reading should be approximately 118 VDC on HI.

Same process is conducted for either the fan kit (figure 3.1) or the light kit (figure 3.2).

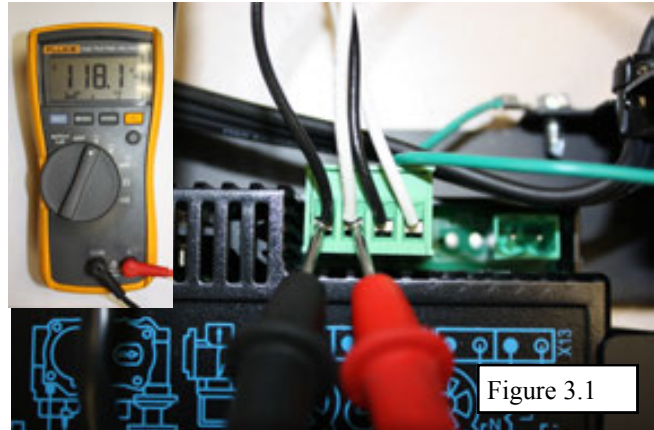


Figure 3.1

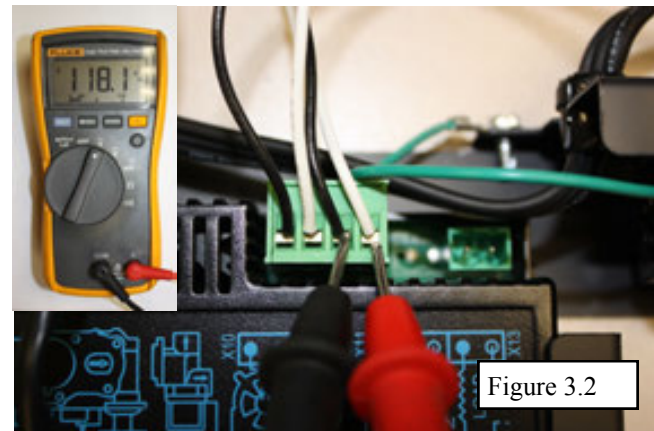


Figure 3.2



