



Revision 0: Initial document creation, 9/2006, M. Rogers

AF4000 MOD-1 OEM Production Line Troubleshooting Guide

If erratic system behavior is observed that cannot be resolved by the methods outlined below, ensure that there is not a transmitter with batteries installed that may be interfering. If a transmitter is packed with batteries installed, its' buttons may be depressed sending a constant signal which can interfere with the transmission of desired signals. A transmitter with new batteries can have a range of over 100 feet.

If all appropriate troubleshooting steps are followed problems persist, please contact Skytech Products Group at 888-672-8929.

Please refer to appendix of illustrations for figures referenced in the following section.

Module will not learn transmitter

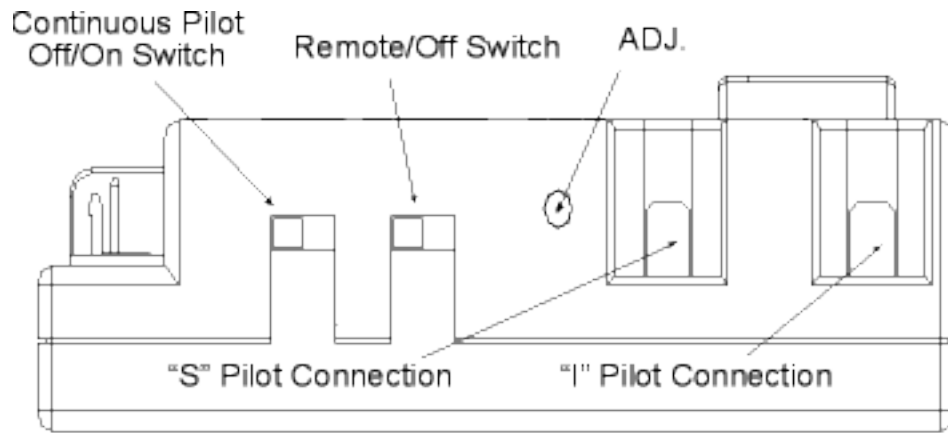
- Ensure the REMOTE / OFF switch on the side of the module (see figure 1) is set to REMOTE.
- Make sure that the batteries in both the transmitter and receiver are installed in the proper direction (see figures 4-6) and are not drained. Individual battery voltage should be no less than 1.4V for AA and AAA batteries, 2.8V for button cells, and 9.0V for 12V batteries.
- Verify that the transmitter indicates that a signal is being sent. With thermostat transmitters the LCD display should indicate ON or OFF depending on which button is being pressed. The LED indicator should illuminate on wall transmitters and on/off hand-held transmitters (see figures 4 and 8). Buttons should be pressed and held for 1 to 2 seconds to ensure that a complete signal is sent.
- Make sure that the transmitter is within the 20-foot operational range of the receiver.
- Ensure that the 4-pin lead-set is securely connected from the battery pack to the control module's AUX connection (see figures 2 and 7). If the A/C Power Adaptor is used, make sure the leads from the adaptor are securely connected to the POWER terminals on the control module (see figure 3).
- Press and hold the LEARN button on the module (see figure 2) for approximately 10 seconds to clear the memory (you should hear a series of beeps from the receiver). Then press and release the learn button (you should hear a single beep from the receiver), immediately press either the ON or OFF button on the transmitter (you should hear a series of beeps indicating the transmitter code has been learned).

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<p>Pilot will not light / stay lit</p>	<ul style="list-style-type: none"> ○ Verify that gas supply is turned on. ○ Verify that the receiver is receiving the signal from the transmitter by listening for a beep from the receiver when ON is pressed on the transmitter. If you do not hear a beep, ensure that the module has learned the transmitter (see above). ○ Ensure that the orange lead from the pilot assembly igniter is securely connected to the terminal labeled “I” and the white lead from the flame rectification sensor is securely connected to the terminal labeled “S” on the control module (see figure 1). ○ Make sure that the orange and white leads from the module are securely connected to the terminals labeled “PILOT” on the valve body (see figure 9). ○ Ensure that the black GROUND wire is securely connected to an appropriate metal portion of the valve or pilot assembly. A proper ground is essential to spark igniter operation. ○ Make certain that the pilot flame is in contact with the flame rectification sensor on the pilot assembly. This valve is equipped with a pilot flame adjustment screw (see figure 9). If the pilot flame is too small it will not contact the flame rectification sensor and will not complete the safety circuit.
<p>Pilot flame is always on / will not extinguish</p>	<ul style="list-style-type: none"> ○ Ensure that the CONTINUOUS PILOT switch on the control module (see figure 1) is set to OFF. ○ Check the handheld transmitter display for the word “PILOT” on the LCD screen (see figure 10). If this is displayed, press and hold the CONTINUOUS PILOT button on the handheld transmitter (see figure 8) for approximately 10 seconds to turn off continuous pilot mode.
<p>Main Flame will not light</p>	<ul style="list-style-type: none"> ○ Verify that the gas supply is turned on. ○ Ensure that the pilot flame will ignite. If not, see pilot flame troubleshooting above. ○ Make sure that the green and white leads from the module are securely connected to the terminals labeled “MAIN” on the valve body (see figure 9). ○ Make certain that the pilot flame is in contact with the flame rectification sensor on the pilot assembly. This valve is equipped with a pilot flame adjustment screw (see figure 9). If the pilot flame is too small it will not contact the flame rectification sensor and will not complete the safety circuit. ○ Ensure that the pilot flame is properly located to ignite the main flame.

<p>Flame height adjustment will not work / works backwards</p>	<ul style="list-style-type: none"> ○ Ensure that the black and red leads from the battery pack or the AF-4000 110H/L module are securely connected to the red and black leads from the motor drive or H/L latching solenoid located on the valve body (red to red and black to black). ○ Verify that the selector switch on the battery pack is set to DC MOTOR DRIVE or LATCHING SOLENOID, depending upon which device is installed (see figure 6). ○ Check functionality with all transmitters to determine if there is an issue with the main control system or an individual transmitter. If the issue is with an individual transmitter, make sure that the batteries in both the transmitter and receiver are installed in the proper direction (see figures 4-6) and are not drained. Individual battery voltage should be no less than 1.4V for AA and AAA batteries, 2.8V for button cells, and 9.0V for 12V batteries.
<p>Room temperature displayed on handheld transmitter is not correct. (When using Thermostatic transmitters only)</p>	<ul style="list-style-type: none"> ○ Ensure that the transmitter was not recently stored in a different environment (air-conditioned, heated) from that in which the transmitter is being tested. It may take up to 3 hours for the temperature inside a packaged transmitter, and several minutes for an unpackaged transmitter, to equalize with the room temperature.
<p>Unit will not respond in THERMO mode. (When using Thermostatic transmitters only).</p>	<ul style="list-style-type: none"> ○ Ensure that the thermostatic transmitter is within the 20-foot operational range. ○ Make sure that an ON or OFF command was not last sent from another transmitter. These commands will over-ride the thermal commands from the handheld transmitter. To return the system to THERMO mode, press either ON or OFF on the thermostatic transmitter, then press the MODE button to put the system in THERMO mode. Press and hold the SET button to change the set temperature (see figure 8). ○ Verify that the set temperature on the thermostatic remote is at least 2 degrees above or below the room temperature. The system will not react to temperatures within 2 degrees of the set temperature.

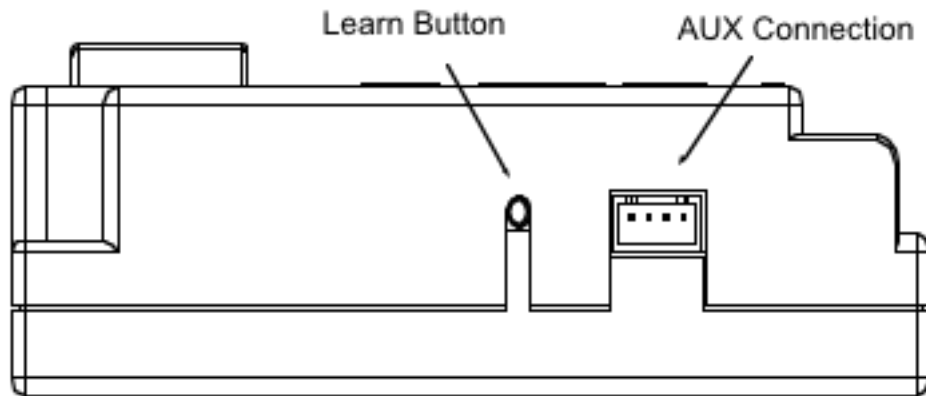
Appendix of Illustrations



AF-4000 MOD Module Rt Side

FIGURE 1

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AF-4000 MOD Module Lt Side

FIGURE 2

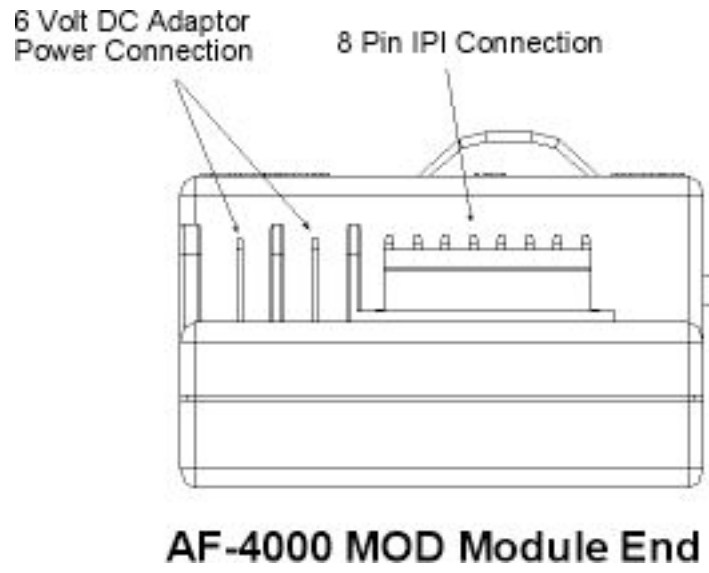
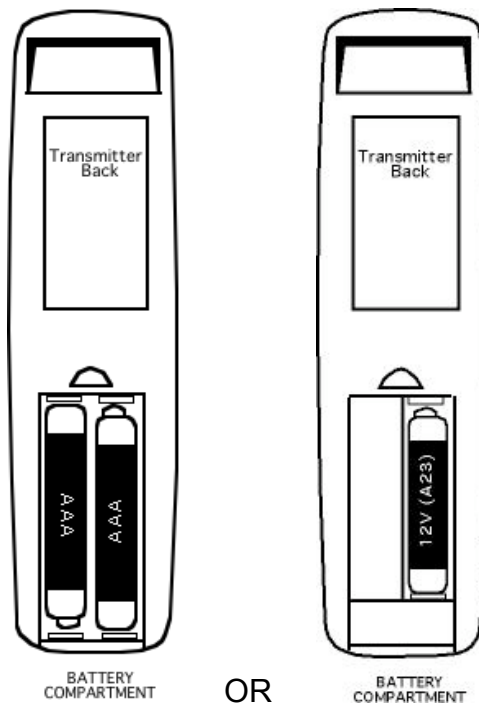


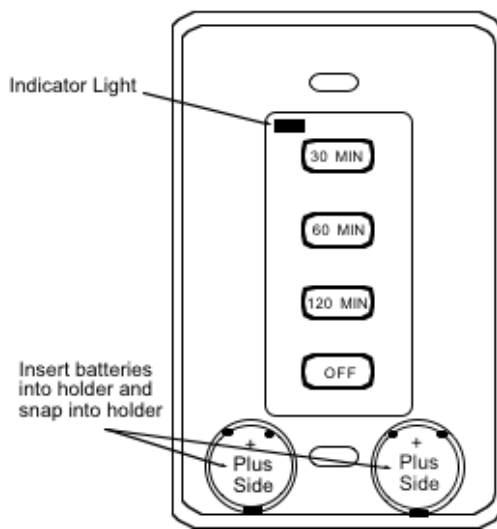
FIGURE 3

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Hand Transmitter Back

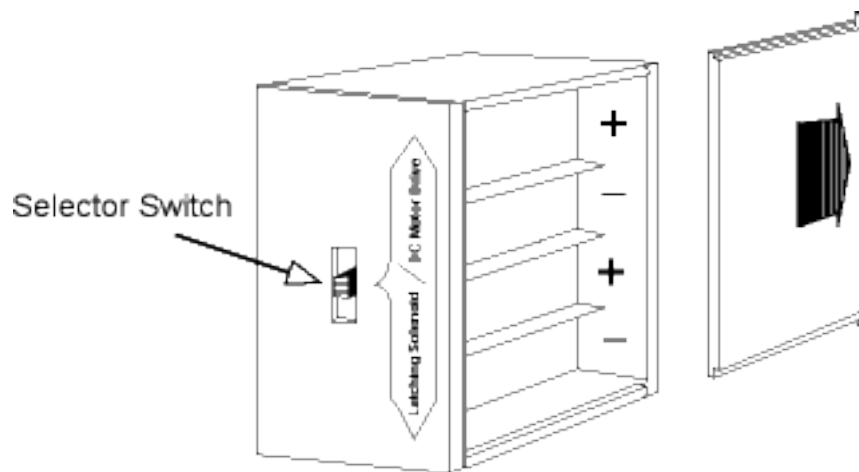
FIGURE 4



Wall Transmitter Face

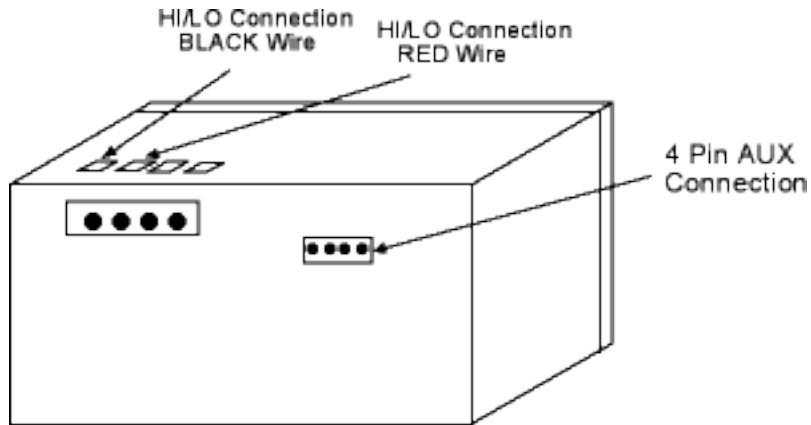
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FIGURE 5



Battery Pack – Battery Compartment

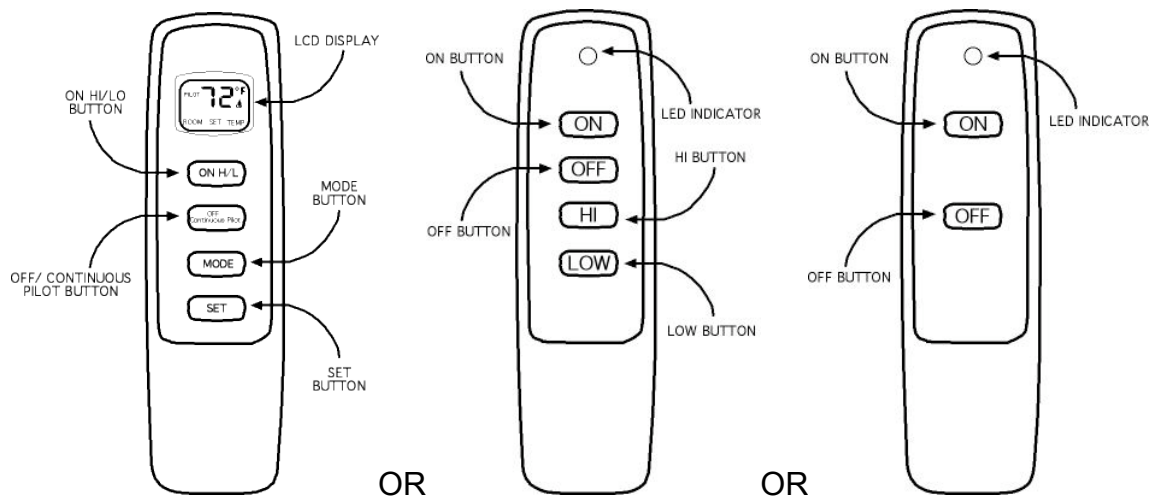
FIGURE 6



Battery Pack – Back

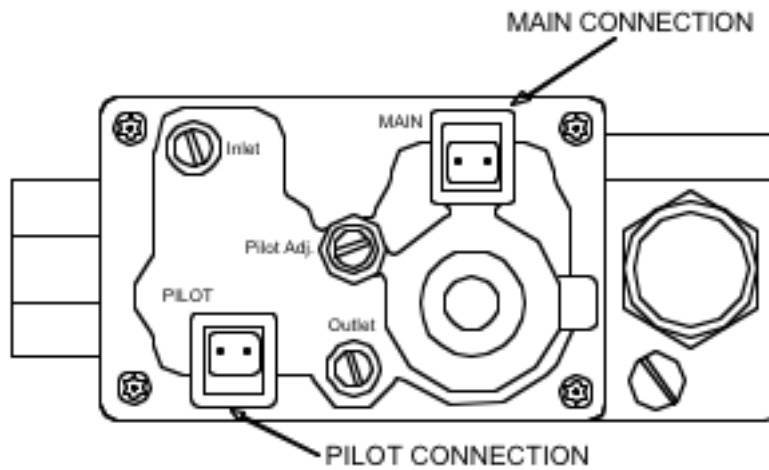
Figure 7

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Hand Transmitter Front

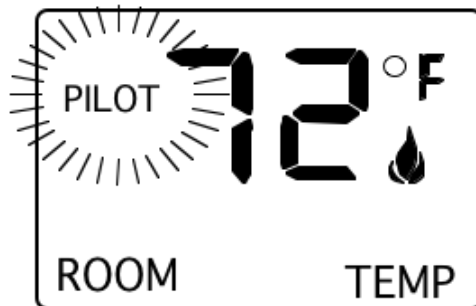
Figure 8



AF4000 VALVE FACE

FIGURE 9

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Continuous Pilot Indication on LCD Screen

FIGURE 10