

The following instructions outline how to diagnose and trouble shoot the domestic hot water (DHW) flow switch on the E Series boilers.

Flow Switch Operation

The DHW flow switch is a paddle type switch with two operating conditions. The flow switch is in the idle (open) position when there is no call for DHW. It is in the active (closed) position when there is a call for DHW. The MCBA (control unit) constantly sends out a signal to the flow switch when the DHW program is activated. If a signal is returned, the MCBA changes the boilers state from heating to DHW. In the idle position the flow switch is open and no signal is sent back to the MCBA to call for hot water. In the active position the flow switch closes allowing the signal to be sent back to the MCBA and causing the boiler to change state.

Trouble Shooting Process

When there is call for DHW and the boiler does not transition to DHW, one possible reason could be the flow switch. These steps should be followed to diagnose if the flow switch is the cause of the problem.

1. The flow switch has an arrow on the side that needs to be aligned with the direction of flow (Figure 1). Check to see if this arrow is aligned correctly. Properly align the arrow with the direction of flow and check to see if DHW is now available. If DHW is not available proceed to step 2.

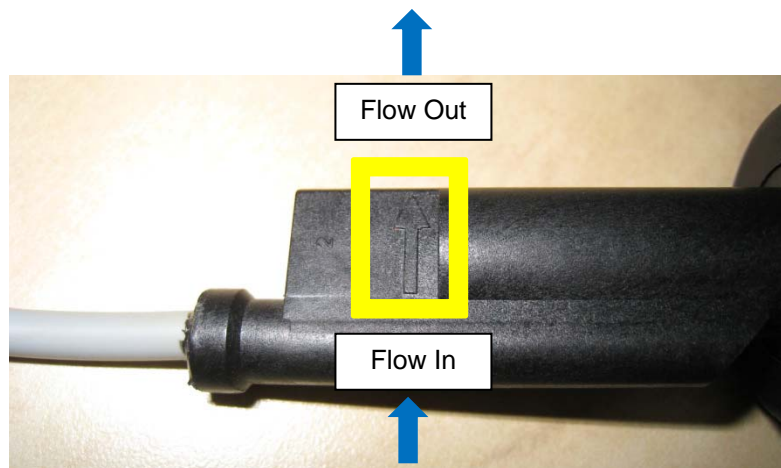


Figure 1

Domestic Hot Water Flow Switch Diagnostics (E Boilers)

2. If the arrow is oriented in the correct direction and the boiler does not change state to DHW from heating, remove the flow switch. Using a digital multimeter set it to test for continuity (Figure 2). Place the meter leads into the plug at the end of the flow switch wiring (Figure 3). The normal state of the flow switch is open and there will be no continuity. Press up on the paddle of the flow switch in the direction of the arrow. The paddle should move freely. While holding the paddle in the up position the meter should now read continuity. If the meter reads continuity proceed to step 3. If the meter does not read continuity at this time the flow switch is no longer operable and should be replaced.



Figure 2



Figure 3

3. Rinse the flow switch with cold water. Ensure that the paddle is clean and free from debris, deposits, or buildup of any type. Pay special attention to the area in the box below and the area where the arrow is pointing (Figure 4). If sediment has built up in this area a possible cause could be debris (Teflon tape, pipe dope, solder, etc.) from the initial installation of the system or sediment in the water supply. If there is sediment in the water supply a water filter should be installed on the line supplying domestic water to the boiler.

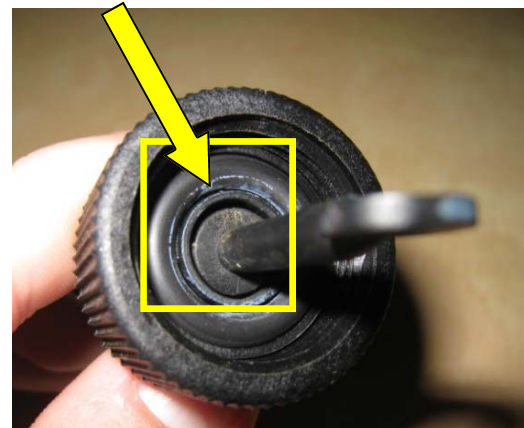


Figure 4

4. Verify that the end of the flow switch (Figure 5) where the gray electrical connection begins is not in contact with the gas line. If the flow switch is in contact with the gas line rotate the brass fitting so that the flow switch no longer contacts the gas line.

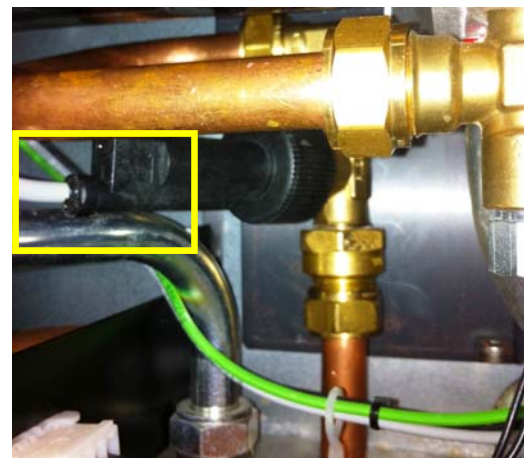


Figure 5