



Supplement: PF-50 through PF-140 Wiring Harness Replacement Guide

This supplement provides step-by-step instructions on how to replace the various wiring harnesses within PF-50 through PF-140 boilers. To install wiring harnesses, reverse the removal instructions.



WARNING: BEFORE BEGINNING, ENSURE POWER TO THE BOILER IS OFF / DISCONNECTED.

Instructions:

1. Remove the front cover panel of the boiler as shown in Figure 1.

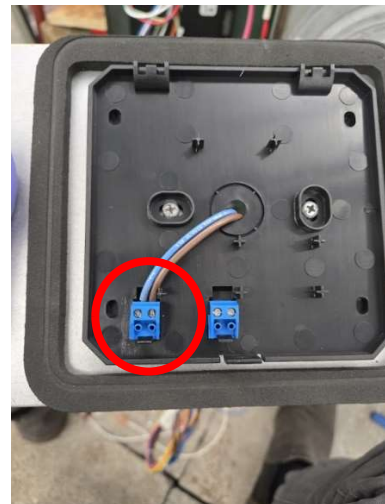


Figure 1: Front Cover Panel of Boiler Removed to Reveal Internals

2. Remove the two hex nuts holding the display panel in place as shown in Figure 2a.



(a)



(b)

Figure 2: Remove Display to Access Internal Wiring

3. Disconnect the wires going to the display by removing the display front from the panel and unscrewing the internal wires as shown in Figure 2b.
4. Remove the two screws holding the left jacket panel in place to access the control board as shown in Figure 3.



Figure 3: Control Board Terminals

1 - Control Harness (Left Side) – PF7123

1. Start by disconnecting the 4-pin connector leading to the supply and high limit sensors as shown in Figure 4. Also disconnect the pink wire quick connections leading back to the control board.
2. Disconnect the two white wires leading to the condensate drain float switch shown in Figure 5.
3. Disconnect the 2-pin connector from the return sensor as shown in Figure 6.

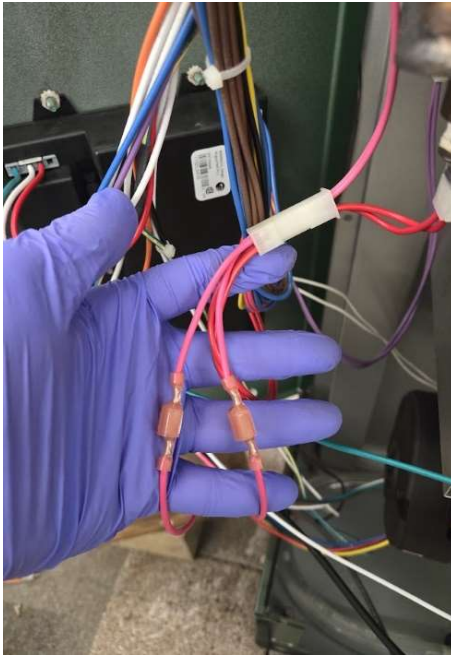


Figure 4: Connector for Supply and High Limit Sensors



Figure 5: Condensate Drain Float Switch Wires

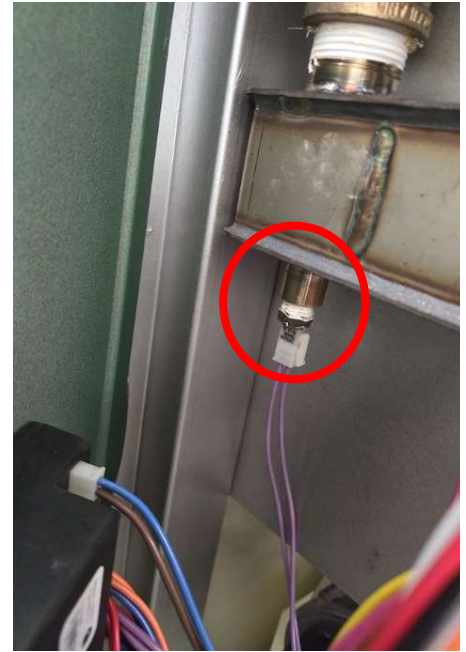


Figure 6: Return Sensor Connector

4. Disconnect the J5, J16, and J18 connectors from the right side of the control board as shown in Figure 7.
5. Remove the control harness terminal block plug (left side) as shown in Figure 8.

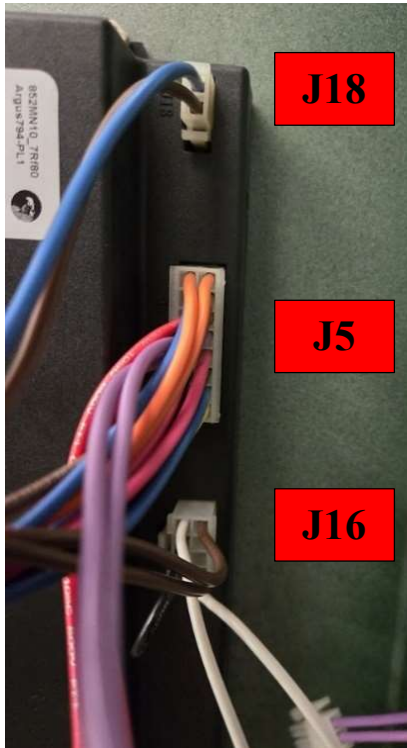


Figure 7: Connections for Control Wiring Harness

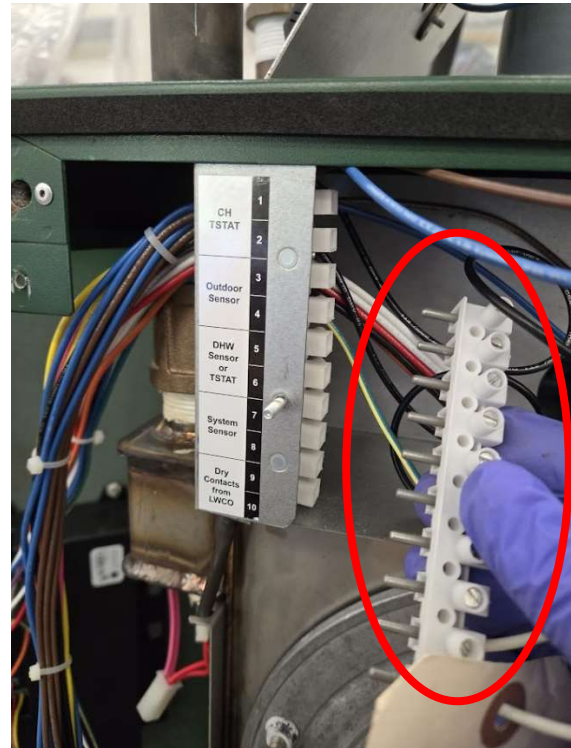


Figure 8: Disconnected Terminal Block Plug

6. Remove the wing nuts from the screws holding the terminal block in place as shown in Figure 9.

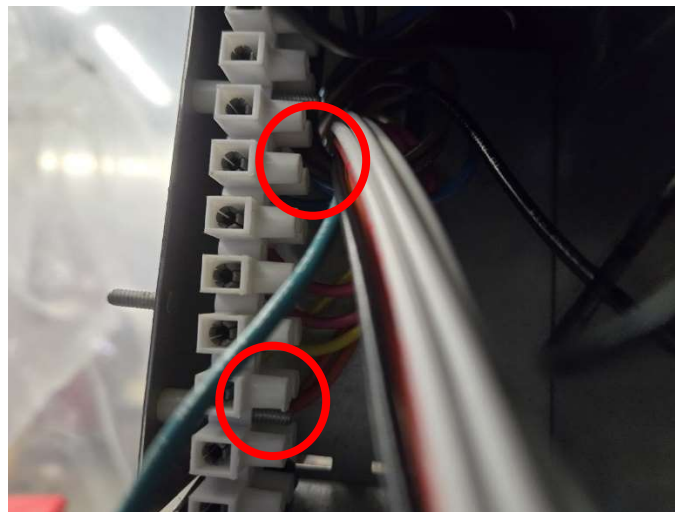


Figure 9: Wing Nut Locations Holding the Terminal Block in Place

7. Remove the terminal block from the screws to allow for the removal of the wiring harness.
8. Disconnect the flue sensor connector located in the terminal box as shown in Figure 10.



Figure 10: Flue Sensor Connector

9. If possible, feed the control side connectors of the wiring harness through the small hole in the side of the display housing as shown in Figure 11. **Each connector will have to pass through the hole individually otherwise it will not fit.**
 - a. If the control side of the wiring harness is too big to fit through the hole, then the terminal block must pass through the hole instead. **To do this, fold the wires against the terminal block as shown in Figure 12 and carefully pass it through to the other side.**

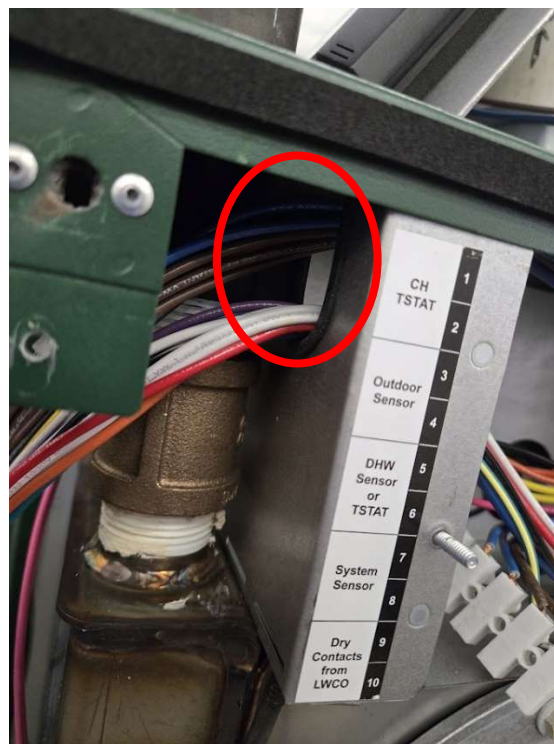
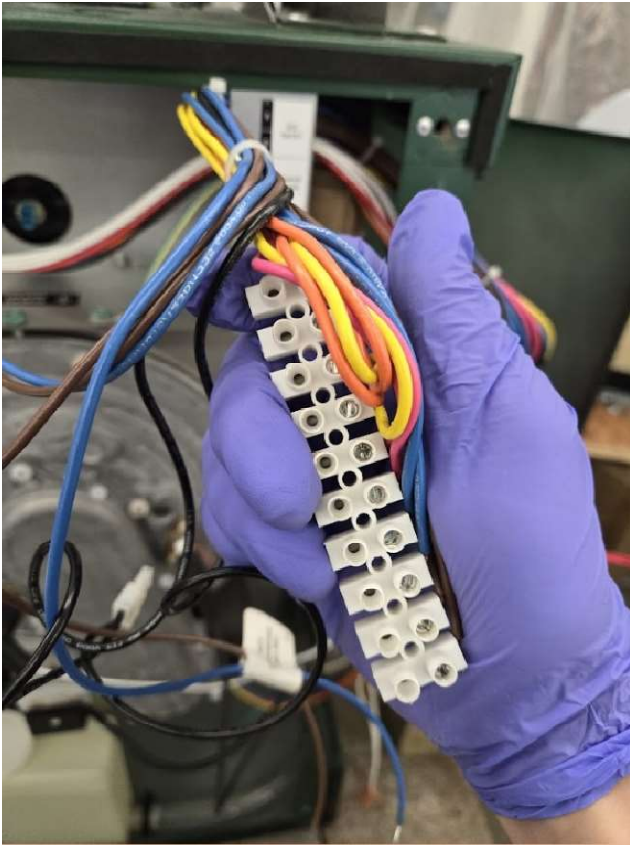


Figure 11: Hole to Feed Wiring Harness Through



(a)



(b)

Figure 12: Feed the Terminal Block Through the Hole in the Display Housing

2 - Gas Valve Harness – (PF7124)

1. Disconnect the J13 connector from the left side of the control board shown in Figure 13.
2. Disconnect the flame sensor from the heat exchanger as shown in Figure 14.
3. Disconnect the wire connections on the gas valve as shown in Figure 15.
 - a. Gas valve wiring may be slightly different than what is pictured below.

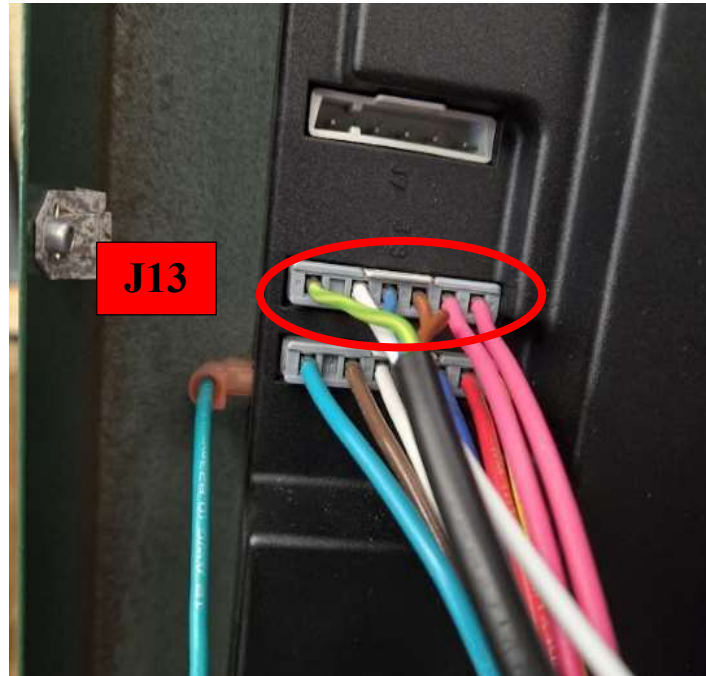


Figure 13: Gas Valve Connector Location (J13)



Figure 14: Flame Sensor Location on Heat Exchanger



Figure 15: Gas Valve Wire Connection

3 - Power Wiring Harness – (PF7002) (Right Side Harness)

1. Disconnect the J2, J6, and J7 connectors from the left side of the control board shown in Figure 16.
2. Remove the terminal block on the right side of the display housing similarly to the control wire harness described above in section 1 step 9.
 - a. Either pass the connectors or the terminal block through the hole depending on which is easier.

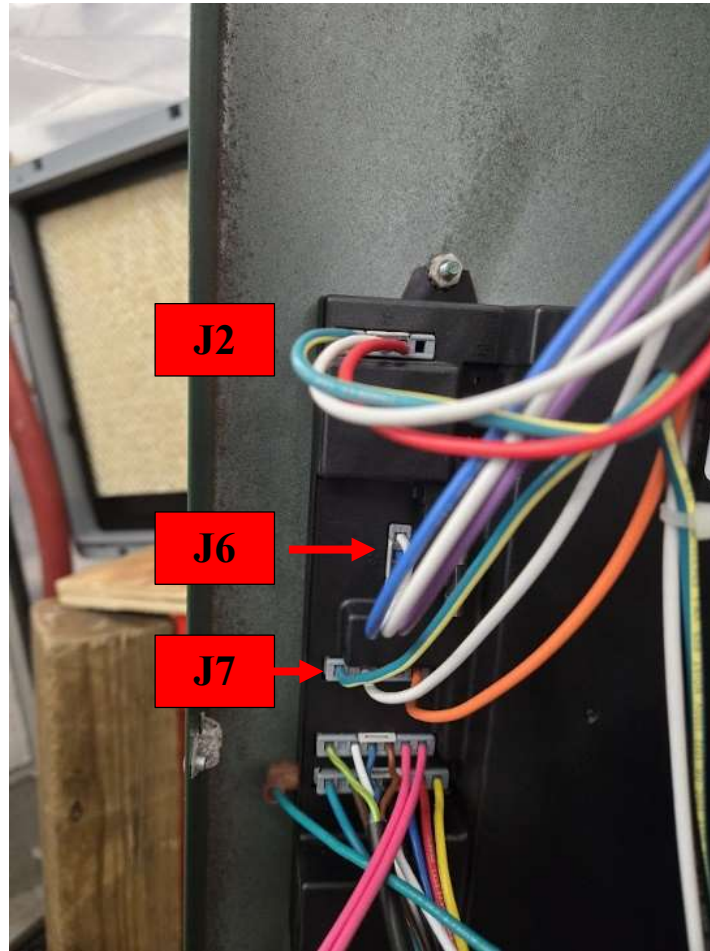


Figure 16: Power Connectors on Control Board

4 – Combustion Fan Wiring Harness (PF7005)

1. Disconnect the J9 connector from the left side of the control board.
2. Unplug the power and control connectors on the fan as shown in Figure 17.



Figure 17: Fan Power and Control Connectors

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