

Circuit Board Replacement



BOSCH

PowerStar AE12 Powerstream Pro RP12PT



WARNING

ELECTRICITY IS EXTREMELY DANGEROUS. ENSURE THAT ALL CIRCUIT BREAKERS SUPPLYING THE WATER HEATER ARE OFF BEFORE PERFORMING ANY WORK.

Tools required

- Phillips head and slotted screwdrivers
- Wire cutters
- Adjustable wrench
- Needle-nose pliers

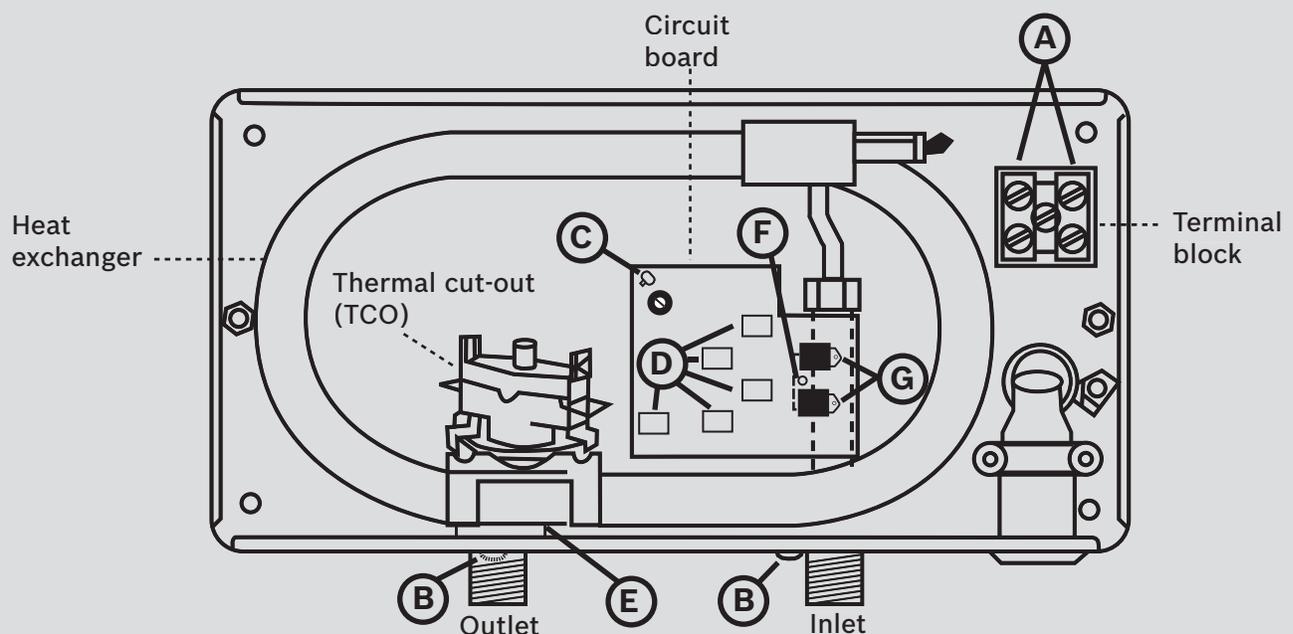
Preparation

1. Turn off circuit breaker supplying power to the water heater.
2. Close installer supplied water shutoff valves.
3. Open a hot water fixture to allow water to drain from water lines and heater.
4. Remove front cover from heater.

Removing element assembly

1. Disconnect pipe fittings from bottom of heater allowing water to drain from heater.
2. Loosen the 2 upper screws and remove blue wires from top of terminal block. (Fig.1, pos. A)
3. Remove the screws at hot and cold connections on outside bottom of heater. (Fig. 1, pos. B)
4. At upper left corner of circuit board, depress white plastic catch on board support and gently pull board off support post. (Fig. 1, pos. C)

Figure 1

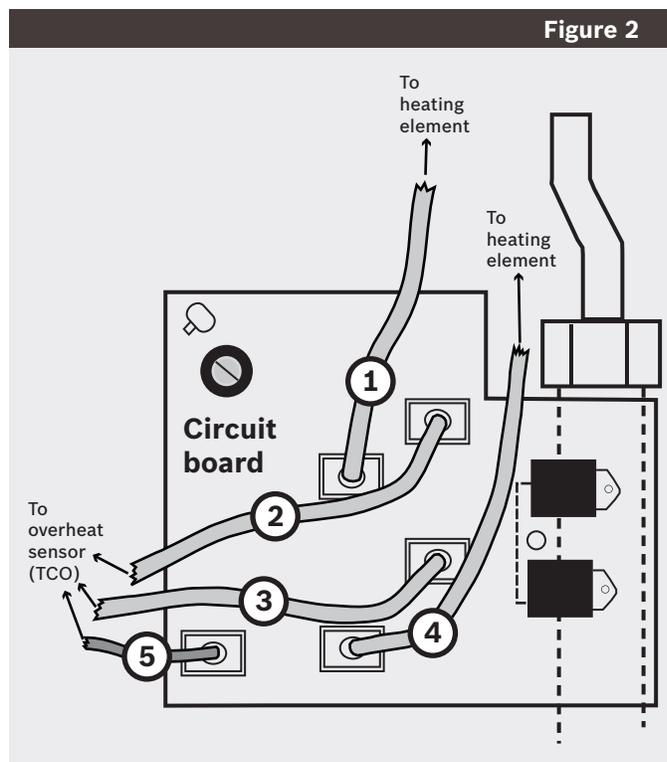


NOTE: Wiring not shown for clarity

5. Remove heat exchanger assembly with circuit board attached from heater backplate.
6. Label five wires on circuit board to ensure they are connected correctly on replacement circuit board. (Figure 2)
7. Gently pull the 4 heavy blue wires and the thin brown wire off the front of circuit board using needle nose pliers while supporting the board with one hand. Do not twist or bend circuit board. (Fig. 1, pos. D)
8. Turn assembly over and carefully cut and remove plastic wire ties.
9. Pull thermistor (black sleeve with thin red wires) from fitting on end of heat exchanger. Thermistor will have white heat transfer paste on it. (Fig. 1, pos. E)
10. Remove brass screw from back side of flow switch housing while holding the "W" clip. (Fig. 1, pos. F)
11. Remove circuit board (with thermistor attached) from heat exchanger.

Installing the circuit board

1. Apply a thin coating of heat sink paste to back of triacs where they will contact flow switch housing. (Fig. 1, pos. G)
2. Attach circuit board to flow switch housing with brass slotted screw and "W" clip. Ensure that triacs are flush to housing. (Fig. 1, pos. F)
3. Attach the 2 heavy blue wires from TCO to "BLUE" terminals on board. (Fig. 1, pos. D)
4. Attach the 2 heavy blue wires from elements to "BROWN" terminals on board. (Fig. 1, pos. D)
5. Attach the thin brown wire from TCO to "L" terminal on board. (Fig. 1, pos. D)
6. Verify that labeled wires are in the correct position. (Figure 2)
7. Apply a coating of heat sink paste to the end of the thermistor and insert in port in heat exchanger. Be sure it touches the bottom of the port. (Fig. 1, pos. E)
8. Fasten new wire ties around heavy wires and thermistor wires to keep thermistor from pulling out of the port.
9. Place heat exchanger assembly in heater backplate and guide board support into hole in upper left hand corner of circuit board until it snaps in place. (Fig. 1, pos. C)
10. Reinstall the screws at water connections. (Fig. 1, pos. B)
11. Reinstall the wires at top of terminal block. The wire from the upper right TCO goes to the left (L2) terminal and the wire from the lower left TCO goes to the right (L1) terminal. (Fig. 1, pos. A)
12. Reconnect water pipe fittings to heater.
13. Turn on water supply to heater and check for leaks.
14. After water has been flowing for one minute, turn on circuit breaker to heater. Light should come on and water should heat.
15. Reinstall cover, making sure the temperature adjust shaft is in the access hole in the cover and set temperature to desired level.



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