

Service Bulletin: TWH-G2-30

Model: 250SX, 250SXO, 635ES, 635ESO, 2400E, 2400EO

A2 Error Code Troubleshooting



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For Serial Numbers Through FD 689:

Introduction:

- An A2 error indicates a problem related to the white overhear cutoff fuse that wraps around the heat exchanger.
- The fuse is a safety device that is designed to fail if the chamber outside the heat exchanger experiences high temperatures (approx 355 °F or 180 °C) due to an exhaust leak.
- An A2 error may indicate an exhaust leak from the combustion chamber or may simply indicate a bad overhear cutoff fuse.

Overheat Cutoff Fuse

- The overhear cutoff fuse is a thick white wire (similar to a fusible link) that wraps around the heat exchanger.
- When the fuse is intact, the heater senses continuity through the fuse, indicating the fuse is okay.
- When the fuse is broken internally (or melted due to high temperatures), there will be no continuity and an A2 error code will be generated.

Tools needed:

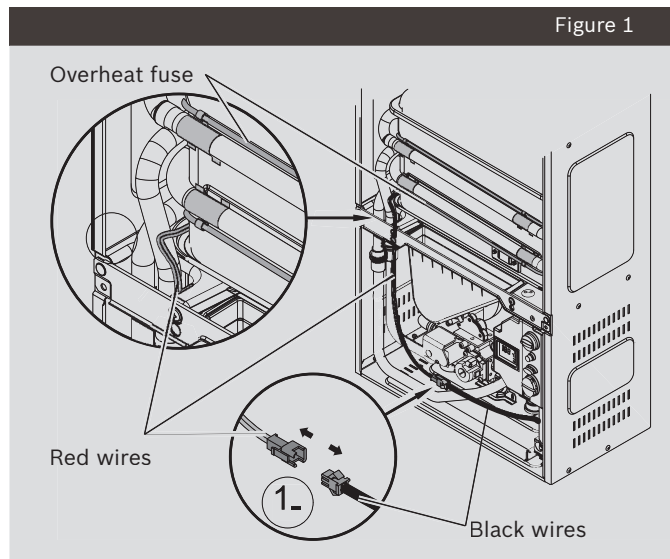
- Ohmmeter/ multimeter
- Phillips head screwdriver

Procedure

1. Press the reset button on the control panel of the heater to attempt to clear the error code. If the error code does not reset or continues to reoccur, proceed with the following troubleshooting steps.
2. Confirm that the heater is installed according to the specifications in the manual.
 - a. The exhaust vent must be sealed single wall, AL29-4C stainless steel not to exceed 26 feet.
 - b. The air intake pipe must not exceed 26 feet.
3. Inspect the heat exchanger for signs of exhaust leakage:
 - a. Perform a visual inspection of the heat exchanger, looking for any signs of cracks or burn marks.
 - b. Visually inspect the gaskets on the top and bottom of the heat exchanger to ensure the gaskets are properly seated.

- c. Inspect the gaskets for any burned or melted sections.
 - d. Inspect the viewing window on the heat exchanger for any cracks in the window or breaks around the window gasket.
4. Verify that the plug connector between the overhear cutoff fuse (red wires) and the control unit is firmly connected (Fig. 1).
 5. Disconnect the plug connector and check the resistance on the white overhear fuse (red wires, see Fig. 1):
 - a. A good fuse should read approximately 1 Ω .
 - b. A failed fuse will read as an open line (no continuity).
 6. If items 1 through 4 check out okay, but the fuse measures as an open line, the A2 error may have been caused by a pinched or failed fuse.
 7. If the fuse has failed (open line), it should be replaced with a retrofit flue gas limiter (Part number 8 700 400 032). The flue gas limiter looks very different than the overhear cutoff fuse but serves the same purpose.
 8. Refer to Bulletin TWH-G2-29 for installing the retrofit flue gas limiter.
 9. The overhear fuse and the flue gas limiter should not be confused with the overhear sensor (ECO) on the upper right corner of the heat exchanger. (The ECO serves an entirely different function and prompts a different – E9 – error code.)

Figure 1



For Serial Numbers FD 690 and Later:

Introduction:

- An A2 error indicates a problem detected by the flue gas sensor located in the upper right corner of the heater.
- The flue gas limiter is a safety device that is designed to trip if the chamber outside the heat exchanger experiences high temperatures (approx 220 °F or 104 °C) due to an exhaust leak.
- An A2 error from the flue gas limiter indicates a possible exhaust leak from the combustion chamber.

Flue Gas Limiter

- The flue gas limiter trips (creating an open circuit) when temperatures in the upper chamber exceed 220 °F.
- The limiter will reset itself (closing the circuit) when it cools off, but the error will still have to be reset manually using the reset button on the control board.

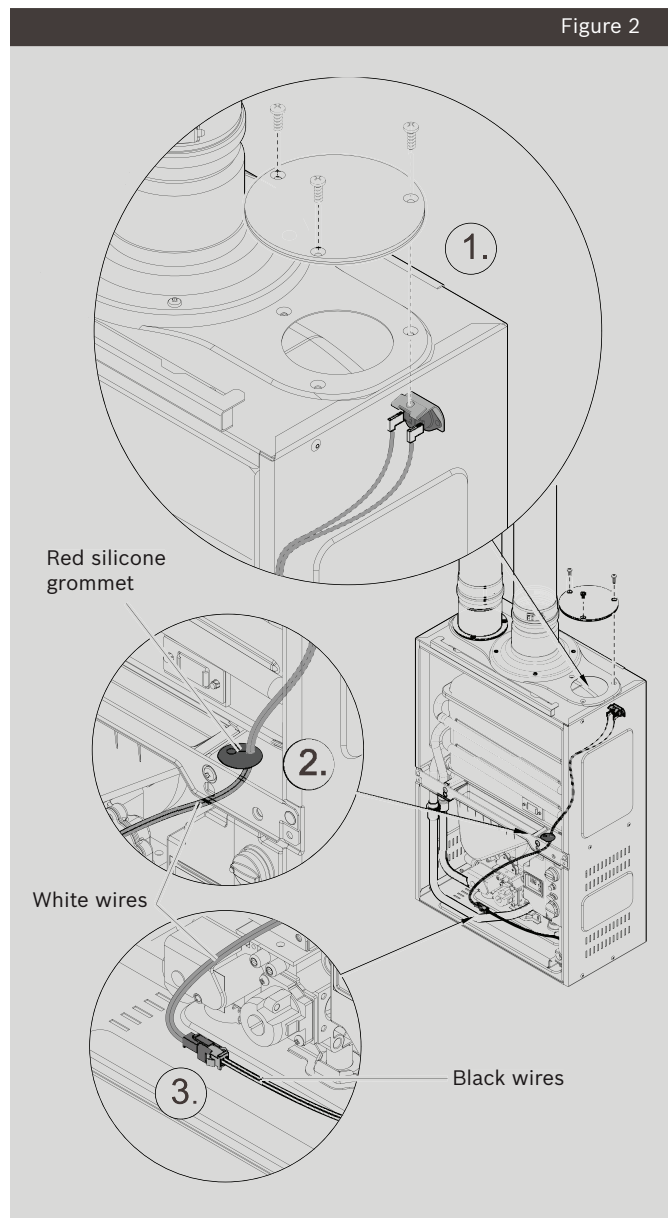
Tools needed:

- Ohmmeter/multimeter
- Phillips head screwdriver

Procedure

1. Press the reset button on the control panel of the heater to attempt to clear the error code. If the error code does not reset or continues to reoccur, proceed with the following troubleshooting steps.
2. Confirm that the heater is installed according to the specifications in the manual.
 - a. The exhaust vent must be sealed single wall, AL29-4C stainless steel not to exceed 26 feet.
 - b. The air intake pipe must not exceed 26 feet.
3. Inspect the heat exchanger for signs of exhaust leakage:
 - a. Perform a visual inspection of the heat exchanger, looking for any signs of cracks or burn marks.
 - b. Visually inspect the gaskets on the top and bottom of the heat exchanger to ensure the gaskets are properly seated.
 - c. Inspect the gaskets for any burned or melted sections.
 - d. Inspect the viewing window on the heat exchanger for any cracks in the window or breaks around the window gasket.
4. Verify that the plug connector between the flue gas limiter (white wires) and the control unit (black wires) is firmly connected (see Fig. 2).
5. The flue gas limiter should not be confused with the overheat sensor (ECO) on the upper right corner of the heat exchanger. (The ECO serves an entirely different function and prompts a different – E9 – error code.)

Figure 2



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