

## Service Bulletin: TWH-G2-10

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

# EC Error Code Troubleshooting



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### Introduction

Follow the procedures below and report results to Bosch Technical Support. This will assist in determining the cause and solution to the problem.

### EC Error code explanation:

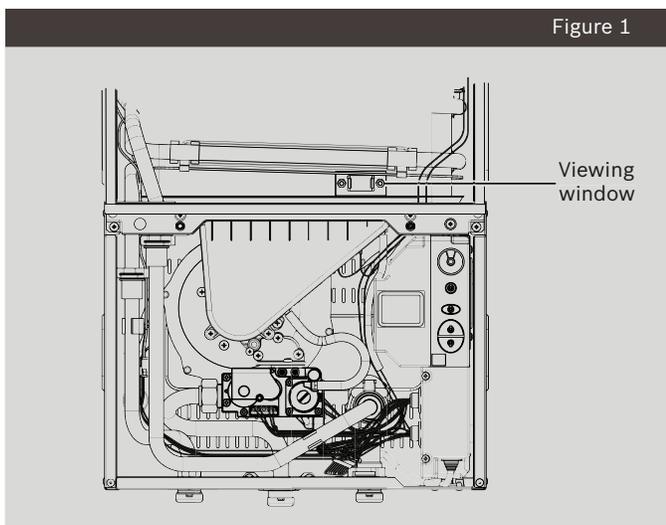
Loss of burner flame during hot water flow.

### Tools needed:

- ▶ Voltmeter/ multimeter
- ▶ Phillips head screwdriver
- ▶ Manometer

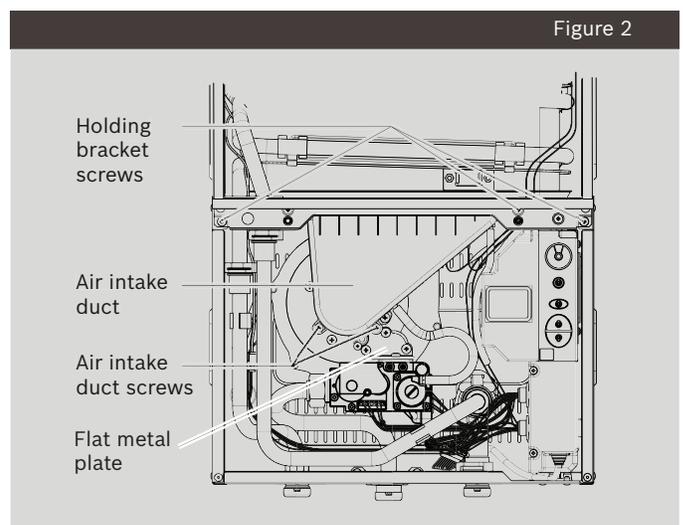
### Procedure

Remove cover from heater (see Section 2.2 in Installation Manual). Check for spark and flame through window in heat exchanger with water flowing (Figure 1).



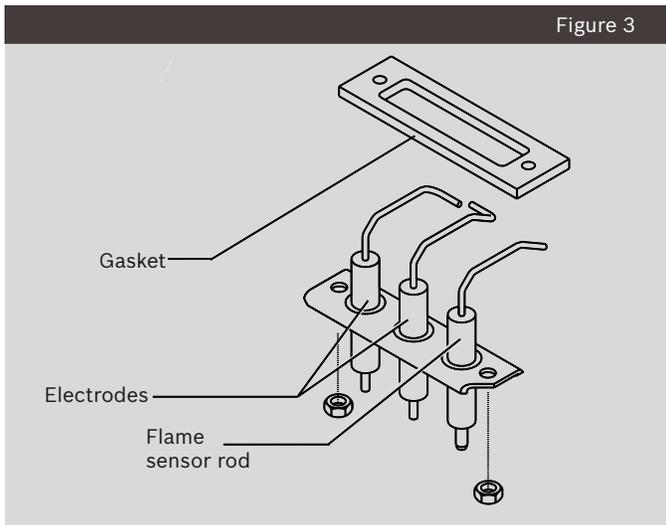
If there is spark and flame but burner flame goes out with water flowing and EC error occurs:

1. Measure gas pressure under full load with manometer. See Bulletin G2-03 or Installation Manual section 2.12 for details. Have gas technician call Bosch Water Heating from heater to report readings. Otherwise, record exact readings in manual or below:
  - a. Static: \_\_\_\_\_"WC, operating (P1): \_\_\_\_\_"WC
  - b. If pressure is inadequate, it must be raised to at least the minimum **before** further troubleshooting.
2. Check for correct gas type on label on right side of heater cover. If incorrect, heater will not operate correctly. The heater's gas type can also be verified using the control unit's diagnostic feature. See bulletin TWH-G2-07 Control unit diagnostics. If you have improper gas type, exchange at place of purchase for correct gas type or call Technical Service.
3. Check for signs of moisture inside heater: Turn off water flow, reset error, turn off heater power and unplug power cord. Turn off gas supply to heater. Remove heater cover, metal crossbar/bracket and black plastic air intake duct (with metal attenuator if present (Figure 2)). Do not lose large O-ring. Look inside the white plastic tube in front of the fan for signs of dust, powder or moisture.



Examine electrode gasket (between top of electrode plate and bottom of burner) for signs of moisture, discoloration or staining. (Figure 3).

Figure 3



Remove 3 screws from flat metal plate on top of gas valve (Figure 2). Remove plate and check for signs of moisture, rust or corrosion. Signs of dust, powder or discoloration may indicate condensate damage. Moisture, rust or puddles of water may indicate rain damage. Once moisture gets into gas valve, it will no longer operate safely or correctly and must be replaced by a qualified technician using a combustion gas analyzer. Moisture can get into gas valve and not be visible. Discoloration of electrode gasket indicates damage to electrodes. Refer to Bulletin TWH-G2-23 to clean or replace electrodes. If moisture is found, see Bulletin TWH-G2-08 for condensation and rain prevention requirements.

4. Check for blocked exhaust or intake venting or terminations.
5. Check for cross contamination between intake and exhaust terminations. Minimum distance between terminations is 3 feet. See Installation Manual section 2.6.
6. Check for broken yellow paint on fuel/air mixture adjustment screws. If either adjustment has been changed, the fuel/air mixture could be incorrect. Adjustment can only be made with the use of a combustion gas analyzer. See Bulletin G2-12 for adjusting CO<sub>2</sub>. **NOTE: If the heater is installed at 2,000' above sea level or greater, CO<sub>2</sub> must be adjusted.**
7. Clean or replace electrodes. See Bulletin G2-23.

**Call Bosch Water Heating with troubleshooting results, exact gas pressure readings or further questions. If a gas technician is at the heater, the technician should call from heater with Unit number (our record referring to consumer's location and heater details). If no Unit record has been started, we will need consumer's name, address, phone number, heater model name and number, serial number, date of installation and installation details.**



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